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ABSTRACT

The Center for Vocational Education is continuing its programatic research efforts to develop more effective procedures for identifying valid and necessary curriculum content. The occupational task survey report for the occupation of business data programer is a product resulting from this effort. The task inventory data summarized were collected in eight States (Mississippi, Wisconsin, New Jersey, Washington, Ohio, Oklahoma, New Hampshire, and California). More than 700 workers and supervisors responded to extensive Task Inventory Questionnaires. Data concerning worker performance, judgments about the criticalness of performance and training, and supervisor expectations were obtained through a set of 12 experimental questions for each identified task. Survey responses are presented in highly summarized and abbreviated tables. Table 1 (32 pages) contains data summaries pertaining to varying degrees of job relevance for 313 tasks of business data programers. The summary task data are reported through the use of percentages, averages (means), and category labels. Additional tables of task data on specific items are appended. Implications from the survey about worker-supervisor differences, training needs, problem areas, and supervisor suggestions for improving performance are discussed. Appended materials (140 pages) include: a bibliography, background characteristics of respondents, and further tables of task inventory data. (Author/BP)

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Research and Development Series No. 108

OCCUPATIONAL SURVEY REPORT ON BUSINESS DATA PROGRAMMERS:

Task Data from Workers and Supervisors Indicating Job Relevance and Training Criticalness

Harry L. Ammerman
Frank C. Pratzner

The Center for Vocational Education
The Ohio State University
1960 Kenny Road
Columbus, Ohio 43210

December 1974

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THE CENTER MISSION STATEMENT

The Center for Vocational Education's mission is to increase the ability of diverse agencies, institutions, and organizations to solve educational problems relating to individual career planning and preparation. The Center fulfills its mission by:

- Generating knowledge through research
- Developing educational programs and products
- Evaluating individual program needs and outcomes
- Installing educational programs and products
- Operating information systems and services
- Conducting leadership development and training programs

FOREWORD

The Center for Vocational Education is continuing its programmatic research efforts to develop more effective procedures for identifying valid and necessary curriculum content. One interim product of this effort is this task survey for the occupation of Business Data Programmer. The descriptive data summarized and reported herein were collected in eight states across the nation. This survey serves as one component of a long-range and multifaceted R&D effort directed at establishing effective procedures for identifying appropriate curricular content in vocational education and occupational training. With its focus upon the performance content of an occupation, the present report augments a parallel concern for the conceptual and affective content of training curriculums. The study was conducted at The Center within the "Methods for Curriculum Content Derivation" research and development program.

It is hoped that, while research continues on procedures for determining relevant and critical content for curricula, the task inventory data summarized in this report may also be of use to practitioners and researchers concerned with curriculum matters The Center welcomes questions and comments which may be helpful to the research team in their ongoing efforts.

The Center expresses its appreciation to the state agencies that were responsible for administering the Task Inventory Questionnaires to workers and supervisors. The following individuals were instrumental in the success of this effort: Richard L. Barker, Deborah L. Bloxom, James L. Blue, Ross Byrd, Gloria Cooper, Griff Dye, Fern A. Green, Tom L. Hindes, Larry D. Johnson, Joseph F. Kelly, Ronald Meek, James F. Shill, William W. Stevenson, James E. Wall, Patrick J. Weagraff, and Clifford Zenor.

The Center also expresses its sincere appreciation to the many participating employees and business firms in eight states for their involvement in the study. Their cooperation and attention to this performance survey were invaluable contributions to its success.

In combination with surveys performed concurrently on two additional occupations, more than 700 employees (workers and supervisors) responded to extensive Task Inventory Questionnaires.

Worker performance data, judgments about the criticalness of performance and training, and supervisor expectations were obtained through a set of 12 experimental questions for each task of an occupation. This wide-scale application of the task survey approach represents a signal achievement for the public education system, demonstrating the feasibility of gathering such data voluntarily from a non-captive audience of many workers who are directly involved in the real-world performance situation and its requirements. Too, the cooperative network of state vocational education agencies served as an effective system for contacting local employers and workers, benefiting from the interrelations existent between the educational and the employment settings.

Robert E. Taylor
Director
The Center for Vocational
Education

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INTRODUCTION

This occupational survey report contains a brief description of the "Task Inventory" method and a series of data tables displaying survey responses obtained for the occupation of Business Data Programmer. Both Business Data Programmers and supervisors of Business Data Programmers answered task questionnaires during the first half of 1974. The summaries of the task data should be useful for secondary, post-secondary, and industrial programs of instruction.

Task Inventory Questionnaires on the work activities (tasks) of Business Data Programmers were part of an occupational performance survey across eight states, distributed geographically throughout the nation. Employers and employees generously donated considerable amounts of time and effort. The survey was implemented through a network of eight state curriculum laboratories, research centers, and vocational education agencies. These agencies provided extensive coordination with local employers and employees, permitting effective accomplishment of the research effort.

The eight-state survey contained Task Inventory Questionnaires for three occupations: Business Data Programmers, General Secretaries, and Automotive Mechanics. Companion reports are being published concurrently for each of the other two occupations. Subsequent reports will note the use of this data to identify the more critical training content for each occupation, and demonstrate the application of the process being developed to accomplish such task selections. Earlier studies in this program reported task lists generated for each of the three different jobs, with these jobs serving as research vehicles throughout the entire project.

Definition of Terms

Several key technical terms are used throughout this survey report. They are defined here to allow the reader to differentiate between them and to understand their usage in this study.

Occupational Area: A cluster of closely related jobs, where that relationship depends upon commonly accepted groupings of jobs by reason of similarity of data systems included, type of

equipment worked upon, subject-matter content needed, or technical concepts involved. Though sometimes comparable to a career ladder or lattice, a job cluster may encompass occupations of a somewhat broader nature. An occupational area or cluster of jobs may also be labeled as an occupational field.

Job: A specific vocation, trade, profession, craft, or occupation serving as a line of work or employment, where most workers typically are called by the same or synonomous job title. A job is not limited to one employment position or one grouping of workers within a single employing firm. However, it is located at only one status level in an occupational area or career ladder, and is distributed across many employment settings.

Occupation: Same as "Job."

Duty: An arbitrary division of a job (or of an occupational area) into functional categories of related tasks for descriptive purposes. Duties are usually stated as a general area of responsibility, with action words ending in "ing"--gerunds.

Task: A meaningful unit of work activity, generally performed on the job by one worker within a limited period of time; a purposeful job-oriented activity of a worker. In most instances a task should be stated such that it would be reasonable for a worker to answer "how often" he performs that task on his job.

Task Inventory: A comprehensive listing of tasks performed by workers in a job or occupational area. When a task listing is combined with one or more questions to be asked about each task, the resulting instrument is called a Task Inventory Questionnaire.

Work Activity: Same as "Task," as used in this report. Implies a purposeful unit of work having direct value in accomplishing the goals of the job. Thus, it would not be a component part of a task such that it had value only in relation to that task, but is in fact a meaningful task of the job itself.

Overview of the R&D Program Served by This Survey

Those individuals involved in the development of vocational and occupational training programs need effective procedures to aid in the identification and selection of content with known relevance to occupational performance requirements. They need to be able to assure users of their curricula and instructional materials that the things to be learned in the training program are the things most appropriately learned there, and that when they use their materials, students will be learning skills which are important to and required for effective performance in the occupation.

The Center's research program on curriculum content is concentrating its resources on the development and testing of systematic methods and techniques. The resulting procedural models should help in the identification and selection of critical content for inclusion in vocational and occupational instruction programs. The overall study hopes to produce a comprehensive set of systematic and efficient procedures for deriving relevant and critical training content based upon requirements of work performance situations. The present report is one product of this ongoing program of methodological research.

The overall objective of the current project is the development of methods for using timely, firsthand occupational task information to identify critical performance requirements that warrant formal training. However, the methods under development are not limited to application in this study. They are being designed for use in many occupations of interest to public education and to industrial training. When fully developed, they should be especially important for planning curricula in situations where there is uncertainty about the occupational requirements and of the critical training content.

In this identification process it is assumed that cost-effective, pre-employment training programs necessarily will not attempt to train students for all tasks performed by experienced workers in an occupation, but rather will assure inclusion of those learning requirements essential for employment and effective job performance. Thus, identification of tasks most needing training prior to employment is necessary for planning efficient training programs.

The basic issue of task selection is to identify those tasks having the greatest training criticalness, and eliminating the merely "nice-to-know" and unessential learning requirements. The intent is to have procedures to select tasks in a systematic way, using data obtained from persons most closely associated with and knowledgeable about what is in fact required on the job. By such procedures it should become feasible to make curriculum content decisions which are data based and data substantiated, instead of relying solely upon a panel of advisors or the experience of individual instructors.

Task Inventory Questionnaires are able to obtain this data base from a broad representative group of directly-knowledgeable persons. Rules for processing these data will be developed and tested. Subsequently these rules would be applied to task data to indicate whether each task should be selected or rejected for further training consideration. The selection procedures will systematically process a large data base of task information so it may be used more readily as an information source by

those persons who must ultimately make the curriculum content decisions; the rules for selecting tasks will not themselves actually make curriculum decisions. In later program work, there will be an attempt to identify the most efficient set of effective rules and supportive data.

For making curriculum decisions and plans, there is a real need to distinguish between that job content which is relevant to workers in the occupation and that relevant job content which is important for pre-employment training. Comprehensive listings of potential tasks performed by workers in an occupation, in conjunction with data about how many workers do and should perform each task, help establish the relevance of the tasks to that job--at least for purposes of making decisions about training programs. Though some tasks may properly belong to a particular occupation, there would seldom be a concern for pre-employment training on any task unless it would likely be performed by some minimum number of workers. Other information about task performance is also helpful in establishing a task's relevance to the job. Such information as (a) how often a worker typically does the task, (b) how important or significant the task is to the job assignment, and (c) the amount of time spent doing each task are all meaningful indicators of task relevance. These kinds of information have been traditional measures often used to describe the work that is pertinent to an occupation. This job description information is one very important determiner of what is appropriate for training, but certainly not the only necessary ingredient.

From those tasks found to be a reasonable part of the occupation (that is, job relevant to varying degrees), it then becomes meaningful to determine which of these curriculum candidates are worthy of some expenditure of instructional resources and student time. Additional kinds of task information are needed to focus attention on the critical training needs, though some of the relevance data may also be useful for this purpose. Selecting which job-relevant tasks should be of training concern is a more uncertain process than determining their performance characteristics and relevance.

Some relevant tasks may occur quite often, but be of trivial interest for pre-employment training programs. This can occur for several reasons: (a) most students could be expected to be able to do the task before entering training, (b) training could be accomplished equally well or better on the job, (c) extensive job experience may be needed to learn a task, (d) task performance may differ quite radically among employment situations such that no standard learning approach is possible, or (e) only the more experienced workers are expected to perform a particular task, such that early learning of it would not likely be retained until needed. Conversely, the learning need may be immediate and obvious.

Also, other relevant tasks may or may not be appropriate for training because of a wide range of other reasons. While full resolution of this issue cannot be expected, there are some kinds of task information that can reasonably be expected to provide important cues about areas needing training attention. Certainly useful would be knowledge of which tasks are related to on-the-job performance problems and difficulties. To benefit from the experiences and judgment of those persons who are close to the job and aware of the realities of the work situation, it would also appear useful to ask such persons where they feel each task should be learned.

For conducting research to generate reliable and meaningful selection rules, there was a need to have sufficient task data to examine several options. The data gathered on Business Data Programmers, and reported herein, partially served this need.

The next section of this report contains a brief description of the "Task Inventory" method and is followed by a description of the survey design for the method as used in this study. Two sets of data summaries are then presented. A highly summarized set of data is presented first. This summary should be of use to individuals involved in curriculum development for computer programming occupations. A set of more detailed data summaries is included in Appendix C. The detailed summary tables would seem primarily useful for reference by individuals who conduct curriculum research and occupational performance surveys. An initial version of inventory and survey procedures was described in an earlier program report (Melching & Borcher, 1973), and a revised and expanded manual of procedures is planned for the completion of this series of studies.

THE TASK INVENTORY METHOD

The "Task Inventory" method is a survey-questionnaire approach to job analysis being tested for providing performance data of use in deriving relevant and critical curriculum content for occupational training programs. Employing a comprehensive listing of job tasks, knowledgeable persons are asked one or more questions about each task. This information is then summarized in a manner suitable to the particular analyses that may be desired.

The methodology in this study is an adaptation of the process for conducting occupational task surveys developed over the past fifteen years by the U.S. Air Force (Morsh & Archer, 1967; Christal, 1974). The general notion of task listings as the basis for a wide sampling of worker responses is not new, having been the form of a survey of 1,845 workers over 871 activity

statements for an occupational area that was reported by Charters and Whitley 50 years ago (1924). One of their purposes at that time, as ours is now, was to determine the job performance requirements for use in defining and justifying curricular content. Renewed interest in this form of occupational surveying was sparked by Rupe as a result of his comparative study of several job analysis methods (1956). With the advent of widely available computer processing for survey data, the survey process became quite feasible to include the capability of new and expanded possibilities for data analysis. This method is used to produce a comprehensive description of what is done by workers in a particular occupation or occupational area. It makes use of an empirical base of timely performance and criticalness data provided by persons close to the current performance of an occupation, usually workers and supervisors, representative of a wide scope of occupational performance situations.

The Task Inventory method now consists of a number of integrated steps which assist researchers and curriculum developers to move from the definition of the training and occupation of interest, through data collection and analysis, to curriculum content derivation. Elements of the process presently include:

1. Definition of the scope of the occupational training interest (such as the job setting, related jobs within an occupational area, and performance contingencies).

2. Development of a comprehensive list of potential tasks performed by workers within the work scope defined, with tasks stated at a level and in a form suitable for making curriculum plans and decisions.

3. Selection of questions to be asked about each task to provide desired descriptive data on task relevance and/or criticalness.

4. Pretesting of instructions or new question formats.

5. Design of a sampling plan to obtain representative task data.

6. Preparation, printing, and distribution of the task questionnaires (including background items on respondents, work settings, and organizations).

7. Administration of the questionnaires to workers and supervisors in accordance with the sampling design.

8. Preparation of the questionnaire data for computer processing.

9. Computation of selected descriptive summaries of response data for each task for each job, or for other population subgroups within a job.

10. Preparation of a report of data obtained from the occupational survey, for sharing with others.

11. Completion of selected analyses of the data, depending on purposes to be served.

12. Preparation of reports to be used for curriculum development and evaluation.

The current program of research seeks to establish additional elements of the process, by which task data may be used efficiently in selecting critical performance training requirements, given the determination of what tasks are relevant to an occupation of interest. The present report is a product of Element 10 above.

Advantages

There are a number of advantages to the use of the Task Inventory method. Elaborating upon advantages noted by Christal (1970), the method includes such advantages as:

1. Representativeness. Data can be collected from many persons who are directly knowledgeable of what does and should occur on the job, and this data can be separately constructed for population subgroups to permit group or situational comparisons and contrasts.

2. Economy. Data can be collected from many persons by questionnaire for less than it would cost to collect data from a few persons by standard job analysis methods. Repeated data collections permit reuse of previously constructed inventories and data. The questionnaires can be mailed and self-administered.

3. Comprehensiveness and Validity. Extensive inventories of job activities are promoted, permitting reponse data to point out variations in job relevance of the items, unprejudiced by preconceived notions of what is relevant and critical. Use of task recognition, rather than recall, enables respondents to provide far greater detail and completeness in the available time.

4. Comparability. Research substantiates the reliability of group responses. Standardization of items and response formats permits assessment of trends over time,

and comparisons with related jobs or other inventory studies. The comparative analyses permit resolution of some uncertainties with respect to regional differences and of newly emerging job types within an occupational area.

5. Quantification. The questionnaire information for the most part is quantifiable, allowing it to be stored, processed, analyzed, and reported by computer. Conventional statistical techniques may be applied in many instances to produce desired analyses.

6. Job Improvements. Clues may be obtained by certain task questions for areas and means where some job improvements might be very useful. Additional clues can be obtained for redesigning jobs and job lattices.

Limitations

The major limitations of the Task Inventory method appear at the present to include the following:

1. Response data now are limited to what is the state of affairs at the time questionnaires are administered, yielding no estimates of future requirements (though this can be tempered somewhat by repeated administrations and analysis of trends).

2. Descriptive job summaries are dependent upon the merit of the tasks originally identified. If the task listing is incomplete or the tasks poorly stated, the questionnaire data cannot compensate for this. There is a fairly high cost involved in constructing the first comprehensive list of tasks, particularly for highly skilled and professional occupations. However, this cost should be rapidly amortized through repeated usage.

3. There remains professional disagreement on how to use the questionnaire data to make specific training curriculum decisions. There is uncertainty as to what information is needed for identifying areas of training concern. Information pertaining to job relevance is only half the picture; there is still the need to determine for which relevant tasks training is important. For routine occupations, data on "proportion of time spent on each task" or on "frequency of task performance" seem to be useful for describing tasks of relevance and significance to an occupation. However, for less-routine jobs (such as those of craftsmen, professionals,

supervisors, salesmen, and others having many tasks to their job) other measures seem more meaningful, particularly the question on "the extent to which each task is a significant part of the job." Data from this survey will subsequently be used to provide some initial resolution of this issue, particularly as it pertains to the making of training curriculum decisions. Performance data, however, does permit reasonable assessments by training personnel of what content is outdated and irrelevant in their existing curriculum.

4. There is uncertainty also as to the form and specificity for stating tasks of an applied cognitive nature, such as those tasks portraying interactions with people and with concepts. On these matters, however, there appears to be reasonable agreement among job analysts with regard to equipment- and material-oriented tasks.

SURVEY DESIGN

Questionnaires were developed and administered to obtain information on the tasks of Business Data Programmers. The following sections describe the nature of that survey. Questionnaires were completed by both programmers and supervisors.

Job Definitions

Business Data Programmer was defined as follows:

> The Business Data Programmer (DOT No. 020.188-026) may be identified by such other job titles as:
>
> a. Business Programmer
> b. Digital-Computer Programmer
> c. Senior Programmer
> d. Business Systems Programmer
>
> In general, the Business Data Programmer is one who converts statements of business problems to detailed logical flow charts for coding into computer language and solution by means of automatic data-processing equipment. They may analyze workflow charts or diagrams representing business problems to develop a sequence of program steps, write detailed logical flow charts in symbolic form to describe arithmetic and logical operations involved, convert flow charts to language processable by computer, test program adequacy, correct

program errors, prepare written instructions to guide operating personnel during production runs, and rework programs to increase operating efficiency or adapt to new requirements. They do not typically program scientific data, research analyses, engineering studies, gaming simulations, or machine automation processes. They may specialize in writing programs for one make and type of computer.

The definition of a Supervisor of Business Data Programmers is given below:

The Supervisor of Business Data Programmers may be identified by such other job titles as:

a. Chief Business Programmer
b. Project Director, Business Data Processing
c. Business Manager
d. Lead Programmer
e. Computer Operation Manager
f. Business-Systems Coordinator
g. Computer Programming Coordinator
h. Program Manager
i. Data Processing Manager
j. EDP Manager
k. Office or Agency Manager

These persons plan, schedule, direct, and review the preparation of programs to process business data by electronic data processing equipment. They may assign and coordinate the work of programming personnel, develop own programs and routines, consolidate program segments into complete sequence, analyze computer test runs for correcting programs or input data, revise or direct revision of existing programs, compile documentation of program development, train subordinates, recommend or initiate personnel actions, and similar supervisory activities.

The Task Inventory Questionnaire

The Task Inventory Questionnaires used in this study consisted of a checklist of 474 computer programming and business data processing tasks, and 12 questions to be answered about the tasks.[1]

The task list used in this study was composed of work activities from a variety of job types in the general occupational area of computer programming and business data processing. Thus, there also were tasks for system supervision, console operation, systems and management analysis, and other functions. These items resulted from a process of reviewing, rewriting, testing, and modifying the task statements from a previous study of the entire cluster of data processing jobs (Borcher & Joyner, 1973).

The task questions used in this study, and their subsequent use for selecting the more critical performance training needs, were adapted from procedures developed for the U.S. Army by the Human Resources Research Organization (Ammerman, 1964, 1966) and a scale of item significance developed by Hemphill (1960). These additional task questions supplement the "relative time spent" data which were gathered in the earlier study by Borcher and Joyner.

Five questions were answered by workers; that is, by Business Data Programmers. Another seven questions were answered by supervisors of Business Data Programmers. Worker questions are arbitrarily numbered as 1, 3, 6, 8, and 12. Four of these worker questions (1, 3, 8, 12) parallel certain of the supervisor questions (2, 4, 9, 13), differing primarily in the way a question is phrased for the particular type of employee. Supervisor questions are associated with numbers 2, 4, 7, 9, 10, 11, and 13.

The 12 questions were intended to provide two types of information. Seven questions were intended to obtain information descriptive of job relevance and task performance.

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[1]Due to the research objective of obtaining a comprehensive data base for examining task selection procedures, the Task Inventory Questionnaires (TIQ) used in this study were unusually long. For most other purposes, a much shorter TIQ would be obtained by using fewer task questions or by distributing portions of the questionnaire over subgroups of employees. However, there usually would be a need for a larger number of employees answering each task question, to assure stability of the summary data to be obtained.

Five questions were intended to obtain information concerning training criticalness. Workers responded to four questions descriptive of task performance and one question concerning training criticalness. Supervisors responded to three questions descriptive of task performance and four questions concerning training criticalness. The following illustrates which types of questions were to be answered by workers and by supervisors.

	Seven Questions Descriptive of Job Relevance and Task Performance	Five Questions Providing Ratings of Training Criticalness
Workers	Q1: Task Occurrence Q3: Frequency of Performance Q6: Extent Task Is Part of Position Q8: Importance to Job	Q12: Learning Location
Supervisors	Q2: Task Occurrence Q4: Frequency of Performance Q9: Importance to Job	Q7: Time to Qualify Q10: Possible to Improve Procedures Q11: Poorly Performed Task Q13: Learning Location

In brief form below are the questions and the response scales associated with each.

Question 1: Task Occurrence (Workers)

During the last year or so in your present job position as Business Data Programmer, which of the activities have you performed?

Response: Check mark for each task perfomed.

Question 2: Task Occurrence (Supervisors)

From your experience as a supervisor of one or more Business Data Programmers, indicate which of the activities should be performed by Business Data Programmers in your operation; that is, by such employees under your supervision in your office or firm. Indicate which tasks your Business Data Programmers should be doing as part of their job, even if only done once.

Response: Check mark for each task that Programmers are expected to do.

Question 3: Frequency of Performance (Workers)

How often have you been performing each of the activities done by you (as checked in Question 1)?

Categories of the Response Scale:

a. Have done, but don't normally do.
b. Less than once a year.
c. Once a year.
d. Once a month.
e. Once a week.
f. Once a day.
g. Several times each work day.

} on the average over the last several months

Question 4: Frequency of Performance (Supervisors)

From your experience as a supervisor of one or more Business Data Programmers, judge about how often a typical Business Data Programmer in your operation should perform each of the activities you checked (in Question 2):

Categories of the Response Scale: Essentially identical to those of Question 3.

Question 5: Relative Time Spent (not used in this study; reported in Borcher and Joyner, 1973)

Question 6: Extent Task Is Part of the Position (Workers)

Answer this question so as to give the best description you can of what you do in your present job as a Business Data Programmer. For each task statement, rate how significant a part of your job it is. Consider and weigh its importance, frequency of occurrence, relevance, and any other factor which you think determines to what extent the task is part of your position. In your own mind, combine these factors into a single rating of how significant a part of your job it represents.

Categories of the Response Scale:

a. Definitely not a part of my job.
b. Under unusual circumstances may be a minor part of my job.

c. (not defined)
d. (not defined)
e. A substantial part of my job.
f. (not defined)
g. (not defined)
h. A most significant part of my job.

Question 7: Time to Qualify (Supervisors)

By your standards as a supervisor of one or more Business Data Programmers, when do you expect that a new Business Data Programmer employee should be capable of satisfactorily performing each of the activities you checked? That is, how soon after beginning employment as a Business Data Programmer do you feel that employees should be able to do each activity with reasonable competency?

Categories of the Response Scale:

a. Competent performance is never necessary.
b. Some number of years beyond the first 3.
c. Within the first 3 years.
d. Within the first year.
e. Within the first 6 months.
f. Within the first 3 months.
g. Within the first month.
h. Within the first week on the job.

Question 8: Task Importance to Job (Workers)

What degree of importance would you assign to each job activity you perform? Judge the importance of each activity in regard to its contribution to effective operations in your office or firm.

Categories of the Response Scale:

a. Low importance (relatively unimportant part of the job).
b. Moderate importance (important but not essential).
c. High importance (essential part of the job that decisively influences the effectiveness of the office operations).

Question 9: Task Importance to Job (Supervisors)

Based upon your supervisory experience in your present operations, what degree of importance would you assign to each job activity that is appropriate for your

Business Data Programmers? Judge the importance of each activity in regard to its contribution to effective operations in your office or firm.

Categories of the Response Scale: Identical to those of Question 8.

Question 10: Possible to Improve Procedures (Supervisors)

(Part 1) Based on your total experience as a supervisor of Business Data Programmers, do you feel that for some of the work activities there could be a better or more effective way of doing the activity? That is, of the activities you checked (in Question 2), could an improvement be made on the present way in which Business Data Programmers typically perform an activity?

Response: Check mark for each task where procedures could be improved.

(Part 2) For those activities checked as possible to improve procedures, suggest the main way for improving such procedures.

Categories of the Response Scale:

a. Provide a readable, ready-reference handbook or similar guide for use on the job.
b. Expand, correct, or clarify the existing directives on the matter.
c. Improve the content of formal school training on the matter.
d. Provide research or special study for improving the present procedures.
e. I don't know how it might be improved, but I think it can.
f. Other (comments to be written in).

Question 11: Poorly Performed Task (Supervisors)

(Part 1) Based on your total experience as a supervisor of Business Data Programmers, do you feel that many Business Data Programmers perform certain of their activities poorly or unsatisfactorily, even after a reasonable amount of time on the job? That is, of the activities checked (in Question 2), which ones are usually not done by experienced Business Data Programmers as well as they could be? This is not a rating of individual programmers, but rather an indication of activities which could be improved under the right circumstances.

Response: Check mark for each task where performance is generally unsatisfactory.

(Part 2) For those activities checked as poorly performed, suggest the main reason for such performance.

Categories of the Response Scale:

a. Lack of interest or poor attitude on the part of Business Data Programmers.
b. Ineffective job training on the matter, in formal school training programs.
c. Business Data Programmers are overburdened with more important matters, and do not have time to perform this activity properly.
d. The activity is an extremely difficult one to master.
e. I don't know the reason, but I believe the general performance by many Business Data Programmers is poor or unsatisfactory.
f. Other (comments to be written in).

Question 12: Learning Location (Workers)

From your total experience as a Business Data Programmer (with present and previous employers), judge where each job activity should be learned. That is, where should a Business Data Programmer make the main effort to learn what needs to be known about each activity?

Categories of the Response Scale:

a. Prior to enrollment in a formal job training program.
b. In a formal training program or school, before regular employment in the job.
c. On site (such as by job experience after employment, or on-the-job training).
d. Through prior employment experience in a related or lower entry occupation.
e. Other (comments to be written in).
f. There is nothing that new Business Data Programmers would need to learn about the activity (such as when it is not part of the job, or there is nothing of any real substance to learn).

Question 13: Learning Location (Supervisors)

From your total experience in employing and supervising Business Data Programmers, judge where each job activity should be learned.

Categories of the Response Scale: Identical to those of Question 12.

These questions, and associated response categories, are repeated for the reader's convenience just prior to their use in the Appendix C tables, as well as in Tables 1 and 2 of the body of this report.

Sampling Plan

Not all participating employees completed each question. There were two major groups of workers and two major groups of supervisors. One group of workers and supervisors were from the states of Mississippi, Wisconsin, New Jersey, and Washington (representing the south, north central, east, and west portions of the country).[2] The second group of workers and supervisors were in the states of Ohio, Oklahoma, New Hampshire, and California (representing a somewhat comparable group of employees in the east central, west central, east, and west portions of the country).

It was intended for the Task Inventory Questionnaires to be administered to 18 programmers and 12 supervisors in each of eight participating states, sufficient to allow for some loss and reduction as might normally be expected in a survey. Seven of the eight states were selected because of the existence of vocational curriculum management centers which were key parts of the National Network for Curriculum Coordination sponsored by the U.S. Office of Education. In two instances an alternate state, affiliated with a curriculum center, substituted in that geographic area to administer the questionnaires. Additionally, the northeast area was expanded to include a second administering state vocational agency. States with both very large and very small populations were in each group.

Employment sites ranged from large metropolitan areas to small isolated communities, with the major emphasis upon metropolitan areas. Business enterprises actually contacted and used were essentially targets of opportunity. They were ones available and accessible to administrators in each state, consistent insofar as reasonably possible with the instructions for identifying respondents and administering the questionnaires. Generally employees were contacted in several different cities and industries within each state.

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[2]To augment the number of available respondents in this grouping, questionnaires from two workers and four supervisors were included from the state of Ohio. These were from a different metropolitan area than those generally included in the alternate grouping of questionnaire respondents.

This diversity of locations and industries, distributed across major regions of the country, was intended to approximate a reasonable representation of the overall work situations in which Business Data Programmers obtain employment. While the sampling of the total population of programmers was not strictly controlled, the actual range of variations included in the survey should certainly lend assurance of the data accuracy and meaningfulness where some concensus did occur in the data.

The following outline lists the questions that employees answered in each subgrouping:

	Questions Included in Task Inventory Questionnaires, Listed in Sequence Answered by an Individual in that Group
Workers	
Group 1	Q1: Task Occurrence Q3: Frequency of Performance Q8: Importance to Job
Group 2	Q6: Extent Task Is Part of the Position Q12: Learning Location
Supervisors	
Group 1	Q2: Task Occurrence Q7: Time to Qualify Q9: Importance to Job Q10: Possible to Improve Procedures
Group 2	Q2: Task Occurrence Q4: Frequency of Performance Q13: Learning Location Q11: Poorly Performed Task

Grouping of four states to respond to each question was a compromise solution for obtaining a broad representation of work settings, yet remain within the research resources of this project. Varied geographical and industry contexts were deliberately sought, rather than concentrating upon some restricted job market. The purpose of broad representation is to secure task information such that training program decisions might better assure that the trainees are effectively prepared for employment in a wide range of situations and opportunities. This is intended to enhance their capability of acquiring satisfactory employment experience wherever opportunities and circumstances happen to occur for an individual.

Such job mobility may not always be the goal of a particular training program, however. In instances where schools or colleges intend to offer specialized training programs that are targeted for particular employment situations, it might be more appropriate to sample employees within a specific type of industry or in a limited geographical area.

Except for Worker Group 2, all persons answered the questions only for those tasks each had checked on Question 1 or 2 as part of the job. This was done in attempting to reduce the response time for each person answering the questionnaires. (Note: In less extensive administrations, it would be recommended that employees provide a response on every item to reduce opportunity for recording error.) Questions 6 and 12 were to be answered for every task in the inventory by members of Worker Group 2, to permit Question 6 to be administered as if no other job-relevance questions were involved. All persons were informed that if there were any particular items they preferred not to answer, they were certainly free to omit that item.

The type and number of questions assigned to each respondent group allowed each questionnaire set to be completed in about three to four hours. This is far too lengthy for normal usage of Task Inventory Questionnaires. However, the various kinds of task data were necessary for one of the purposes of the overall research program, i.e., the identification of the fewest questions which accurately detect relevant and critical training needs.[3] Such a determination should eventually permit future questionnaires for training purposes to be much briefer. The data collected do indicate that participants were patient with the present version, and made an obvious effort to respond accurately. This cooperation and effort are highly appreciated.

Network of State Agencies Providing Local Administration of Questionnaires

In addition to the participating employers and employees, the success of this wide-scale data collection effort was due in large measure to the conscientious activities of personnel in several state agencies. It was their mission to establish local contacts to secure the cooperation and response to employers and employees. Each agency accomplished this in the manner most effective for a particular state, consistent with general guidelines regarding the types of respondents needed.

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[3]This identification is not part of the present report of the occupational survey.

They administered the Task Inventory Questionnaires on a large scale, in a civilian and community context, and in compliance with the requirements of this study for full voluntary participation by each respondent. Appendix A acknowledges the responsible participating agencies and key individuals involved. Since their participation some individuals have become associated with agencies or positions different from these citations.

Instructions to Supporting State Agencies

The instructions provided to guide data collection for this study were:

> Moderate-sized or large business operations should be sought. If the business is too small, the data-gathering effort becomes too time-consuming to be worthwhile, although there is no restriction against using them.
>
> At least three different employing firms should be obtained, preferably as many different employers as reasonable to get. Try not to obtain all of the same type of business firm. Generally, no more than six workers of a given job type should be sought from any one employer.
>
> Insofar as possible, try to get workers who have from two to ten years of work experience after qualifying in their job area. That is, try to avoid those with very limited or very extensive job experience. A predominance of older workers would tend to provide unrealistic job data upon which to base the training needs of new workers.
>
> Supervisors should preferably have four or more years of experience supervising workers of the particular type involved in this study. To the extent possible, seek persons who have had experience supervising a number of workers of this type.

For workers it was assumed that some minimal amount of job experience would be needed for them to recognize and provide useful indications of performance requirements. However, extensive experience probably leads to patterns of performance beyond those for which pre-employment training might be expected or is likely to occur the first few years on the job. Thus, competent workers with about two to ten years of experience in the occupation seemed most desirable. For supervisors, the more relevant supervisory experience the better. It is their extensive background which should permit them to make useful ratings and judgments.

Additional instructions also were provided on handout sheets for each agency. It is important that administrators of questionnaires be well informed of the type of employees desired as respondents, as well as how to handle a variety of contingencies that invariably arise. To assure this, key representatives of each agency met with the project staff at The Center for Vocational Education prior to contacting employers and workers. At this one-day session, all were informed of the directions and had an opportunity to discuss individual concerns.

The Task Inventory Computer System Programs

The Task Inventory System (TIS) computer programs were designed specifically to produce descriptive summaries of the response data for each question. They were designed in a modular fashion to permit ready applicability for processing data from other task surveys that might be conducted in the future. New questions or response formats may be accommodated as needed. The TIS is composed of three programs:

1. FILEUP - FILEUP reads raw data cards, scans for inconsistencies, checks for card sequencing errors, and builds a raw data tape file (MASTER).

2. SVCALC - SVCALC reads the MASTER file, calculates summary values for each task, and creates a summary value tape file (SVFILE).

3. TABLES - TABLES reads the SVFILE and prints desired Data Summary Tables. (Tables 1-9 of Appendix C) It does not, however, print out the task statement.

The TIS has a capacity of 500 task items per job and can be used to analyze data collected on a variety of question formats, including checkmarks for applicable tasks, interval and ordinal scales, single response options on nominal scales, and combinations of checkmarks and nominal scale options. Interval scales contain the option of including or excluding the 0 scale level in computing average responses, where 0 denotes that the respondent does not perform the task. Thus, an average can be computed for only those workers who actually have the task as part of their job.

A set of valid codes for each question is utilized by the TIS to screen the questionnaire data for errors and inconsistencies. Inconsistencies may occur when a respondent does not check a task as occurring (on Question 1 or 2), but does respond on some subsequent question. Such inconsistencies result in the insertion of an invalid code by the program for the particular

task item and question combination on which the inconsistency occurs. A similar procedure is incorporated in the program to recode missing data to a missing data code. As a result of these screening devices, the program bases calculations on only those responses present within the ranges of valid codes.

The summary data for each task item may consist of:

1. Measures of central tendency or average responses (means, medians, modes).

2. Measures of response dispersion (standard deviations, quartile deviations).

3. Percentage of category use.

4. Percentage of use of a specified scale range.

5. Frequency distributions of responses on a scale, and job totals.

6. Scale differences between subgroups of respondents, such as job types within an occupational area or distinct types of respondents within one job type.

7. Number of persons responding to the question.

In the data reported in Appendix C there are 134 columns of summary information given for each task. These data are grouped into seven tables to print-out related kinds of task information:

Table 1: Task Occurrence (10 columns of data)
Table 2: Task Importance (22 columns)
Table 3: Extent Task Is Part of the Job (13 columns)
Table 4: Frequency of Task Performance (27 columns)
Table 5: Time to Qualify (14 columns)
Table 6: Learning Location (26 columns)
Table 7: Supervisor Suggestions (22 columns)

Other reporting formats may be programmed to fit special requirements of new studies.

Characteristics of Respondents

Background data were gathered from workers (Business Data Programmers) on five issues: (a) present job title, (b) type of business in which employed, (c) primary source of training for the job, (d) years of experience in present job, and (e) years of experience in the occupational field. Supervisors provided

background data on: (a) present job title and (b) type of business. Four additional pieces of background information were to be provided by the state agencies supporting this study: (a) specific type of business operation, (b) relative size of business, (c) relative city size, and (d) time required to complete each questionnaire. A summary of available background data for Business Data Programmers is provided in Appendix B.[4]

It can be noted in Table B-1 that programmers with job titles of Business Data Programmers and Senior Programmers accounted for 43% of the workers responding to the questionnaire.[5] The variability of local job titles tends to mask the actual position held, since titles of programmers apparently may range from Computer Programmer to Programmer/Analyst, even though they actually fulfill the defined role of Business Data Programmer. Additional titles written in by 17% of the workers included such job labels as Management Information Specialist II, Programmer II, Programmer/Analyst II, and Programmer-Operator.

Thirty-one percent of the supervisors gave Data Processing Manager as their job title, with a wide variety of other titles accounting for the balance; including 36% giving write-in job titles of Supervisor of Systems Procedures, Manager of System Services, Manager of Systems and Programming, Supervising Programmer/Analyst, Supervisor of Systems and Maintenance Programming, Data Processing Manager, Development Group Supervisor, Director of Linear Programming, Management Information Systems Supervisor, Assistant Director for Applications of Computer Center, Customer Support Manager, and Systems Project Manager.

With respect to the type of business in which employed (Table B-2), non-federal government (other than education) was the most frequent category selected by both programmers and

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[4]The background data were collected for the research purposes of this study only and do not necessarily meet the needs of other job analysis studies, such as those specified by the draft guidelines of the Equal Employment Opportunity Coordinating Council (1974) for employment test validation, or those cited in the APA/AERA/NCME (1974) standards for reporting the sample and conditions influencing test validity studies. Agencies desiring to adapt these data categories or this methodology to local conditions are cautioned of the need to collect background information in conformance with appropriate requirements.

[5]All background percentages are based on the total number of workers or supervisors in the sample.

supervisors (28% and 22%, respectively). Education ranked second in frequency of selection by both groups (workers 18% and supervisors 21%). Manufacturing ranked a close third, with 13% of the workers and 20% of the supervisors. The balance generally were distributed across 10 of the remaining 15 listed business options. However, write-in statements of programmers did include such business variations as data processing center (or service), statistical publishing, electronics manufacturer, and news media. Supervisors wrote in such additional business services as public port, computer manufacturer, newspaper publishers, wholesale distributing, and service industry (computer bureau).

Programmers received their training to qualify for the occupation (Table B-3) predominantly through self-learning on-the-job (26%); employer training programs (19%); private business, trade, or technical school (13%); or through a technical institute or college (12%). These figures are not fully representative of the primary training source for programmers, as a number of respondents (10%) marked more than one training category. Multiple responses were not tallied in this study, although they tended to be combinations of employer training programs, on-the-job self-learning, technical institutes, and a mixture of five other training sources.

The programmers varied in the number of years of job experience in their present jobs from less than one year to 18 years, the average being 3.0 years (Table B-4). Total years of individual experience in the computer programming occupational field ranged from one year to 35 years. The average number of total years of related occupational experience was 5.4 years.

Classifications by state agencies, though far from being fully available, did provide some indication that the specific types of business operations included in the survey were predominately business firms with supportive computer operations and university computer services. These represent 32% of the total sample of worker and supervisor respondents, and 62% of those reported by the state agencies. Respondents were drawn primarily from large business operations (48% of those reported), with some 18% representation from small-sized operations. City size classifications indicate that the largest percentage of respondents (73%) were drawn from reasonably large metropolitan areas as opposed to moderate-sized or smaller cities remote from a large metropolitan area. These data are reported in Table B-5.

RESULTS

The survey results are presented in two forms. First, the survey data on task relevance are presented in highly summarized and abbreviated form in Table 1. Second, a detailed presentation

of all survey task data is provided in Appendix C for those readers wishing to use specific data values. Necessary interpretative information for Table 1 is presented just prior to the set of tabled data. Task statements are located with Table 1 and in Appendix D. Since Question 2 was administered to both groups of supervisors, summaries of supervisor judgments on task occurrence represent a composite of both groups.

Review of the completed questionnaires prior to keypunching of the data caused the rejection of returns from 10 workers and 12 supervisors. Such rejections were based on major obvious failures of respondents to follow the questionnaire directions. A number of supervisors rated the job of supervisor instead of the workers' job. Some respondents appeared not to have understood the rating procedure at all, with highly inconsistent and incomplete responses. A few chose not to complete the questionnaires after making a start.

An additional 10 worker questionnaires and nine supervisor questionnaires were also not used, to reduce the analysis to the intended 60 workers and 40 supervisors for each of the two administration groups. These selections were made by eliminating the less complete and less accurate questionnaires, such as evidenced by (a) the background sheet indicating a possibly inappropriate job title (e.g., Systems Analyst, Scientific Data Programmer, Junior Programmer or Coder) and substantiated by the task response pattern, (b) using many multiple responses to task questions (which were not usable by the computer routine), (c) answering nearly all tasks without a pattern of item discrimination, or (d) not answering some of the task questions at all. Since this study was not investigating the merits of the task inventory questionnaire method itself, but rather trying to establish a useful data base for making training selections, questionnaires which tended to detract from the validity of that data base were eliminated. However, this was only possible within the constraints of retaining returns from 40 supervisors and 60 workers per group.

On the average, each programmer in Group 1 marked 115 tasks on Question 1 as performed by them. Group 2 programmers each indicated an average of 153 tasks as part of their job, at a level of 2 or higher on Question 6. Supervisors in Group 1 marked an average of 167 tasks to be performed by their programmers; with 164 tasks marked by the second group of supervisors on Question 2. These figures compare with 313 potentially relevant tasks of Business Data Programmers, after omitting 161 of the 474 listed tasks as not being a part of the occupation for training purposes (see next section). Apparently, a person in any one programmer position performs less than half of the tasks that might be relevant across the entire occupation.

In Table 1 and in Appendix D the tasks are organized within 12 arbitrary duty areas, as on the original questionnaires.

The duty labels are merely a convenience for providing some functional structure to the entire listing of potential job tasks, intended to provide some work context in which to interpret the task statements.

These duty labels unfortunately resulted in some misunderstanding. A few raters omitted whole duty listings, apparently because the duty label itself did not seem appropriate for them, without checking whether individual tasks within a listing might be relevant. For instance, Duties A, B, C, and D all were labeled as "supervising" duties. Occasionally, if some worker did not feel any supervisory duties were performed, these sections might be skipped altogether without reading the task statements.

Since the duty categories were established arbitrarily in the first place, it would be our recommendation for future questionnaires that duties not be based on functions that might be construed as limited to particular types of employees in an occupational field. Another recommendation would be to move some highly relevant tasks up near the beginning of the task listing in Task Inventory Questionnaires, instead of starting off with more than 100 supervisory-oriented tasks. This would give workers a clearer idea that the task list pertains to them, and may help prevent some supervisors from thinking erroneously that they are to be rating their own job as supervisor instead of the workers' job.

Abbreviated Summary of Task Relevance Data

Table 1 includes those task questions that suggest the extent to which each task is relevant to the job of Business Data Programmers. To eliminate obviously questionable information, two editing operations were applied to the data prior to preparing the summary.

The original task listing contained 474 task statements. With the data from this survey, 161 tasks were identified as of low relevance and apparently not a part of the job of Business Data Programmer. A task was considered irrelevant and excluded from the data summary when less than 10% of the Business Data Programmers indicated that they performed it or less than 10% of the supervisors indicated that Business Data Programmers should perform the task. The tables in Appendix C contain information about these 161 omitted tasks, and Appendix D contains the identifying statement for each such task. The remaining 313 of the 474 listed tasks are presented in the summary table.

A second set of items, involving specific summary data, were removed when either the distribution of responses to a question was very scattered, or very few people responded to a question. These occurrences render any summary statistic very unstable. Because the tasks omitted were determined very

conservatively, some of the summary items included may be sufficiently unstable to merit further study. The specific basis for deleting summary items is described in the next section.

Interpretation Guide for Table 1

Table 1 contains the data summaries pertaining to varying degrees of job relevance for 313 tasks of Business Data Programmers. Task numbers in Table 1 are the same as the original numbers assigned in the Task Inventory Questionnaires.

It should be kept in mind, while examining these task data, that tasks vary in the extent to which they are part of the overall job of Business Data Programmers. Some are only peripheral work activities, more relevant to other related occupations within the overall field of data processing. Their degree of relevance or job importance are not necessarily an index of their need for pre-employment training.

The summary data are reported through the use of percentages, averages (means), and category labels. Percentages are used to report responses to Questions 1, 2, and 6. Averages are used for responses to Questions 6, 8, and 9. For Questions 8 and 9 these averages reflect only those answers given by individuals who identified a task as part of the job (per Question 1 or 2). Averages for Question 6 include responses that the task is not a part of the job (scale level 0), with an additional summary column to show what percentage of programmers rated each task as at least a "substantial" part of their job (i.e., used scale levels 4, 5, 6, or 7). Abbreviated frequency statements are used to label summary (median) responses[6] to Questions 3 and 4.

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[6] Summary labels were assigned on the basis of median response averages on the seven-point scale which was used to rate frequency of performance. The method used for converting median values to summary labels is shown below:

"Frequency" Scale Category	Range of Median Values	Summary Labels for Medians in the Range
Have done, but don't normally do	1.0 - 1.5	Possible
Less than once a year	1.6 - 2.5	Seldom
Once a year	2.6 - 3.5	Yearly
Once a month	3.6 - 4.5	Monthly
Once a week	4.6 - 5.5	Weekly
Once a day	5.6 - 6.5	Daily
Several times each work day	6.6 - 7.0	Daily +

Data reported in the first four columns of Table 1 (Questions 1, 2, and 6) include all responses. Data reported in the last four columns (Questions 8, 9, 3, and 4) omit any item which: (a) has been answered by fewer than 10% of the workers or supervisors in a group, or (b) had a distribution of responses which was so widely scattered as to make an average completely meaningless.[7] An item of task information which has been omitted is denoted in the Table by a dash entry.

To facilitate the interpretation of Table 1, the response scales for Questions 3, 4, 6, 8, and 9 are repeated here to provide the reader a quick reference while examining the data. Number values in front of each scale category were those assigned for computing averages, and correspond to summary values reported in Table 1.

Questions 3 (Workers) and 4 (Supervisors): Frequency of Performance

1 = Have done, but don't normally do.
2 = Less than once a year.
3 = Once a year.
4 = Once a month.
5 = Once a week.
6 = Once a day.
7 = Several times each work day.

} on the average over the last several months

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[7] Cutoff points for deletion of scattered responses were determined on the basis of the number of responses and the number of intervals on the answer scales. Questions 8 and 9 were edited through the use of cutoff points based on standard deviations. Responses to these questions were deleted when their standard deviations were greater than 0.85 and 0.93, respectively. These cutoff values were considered quite generous and conservative, eliminating only the most obviously unstable data.

Questions 3 and 4 were edited through the use of the quartile deviation (half of the number of scale units over which the middle 50% of answers occur). Labels were deleted when these quartile deviations were greater than 1.75 and 1.84 for Questions 3 and 4, respectively.

Providing the basis for these values was a section in Downie and Heath (1959, pp. 47-51) on the interpretation of standard deviations (s) and their relation to range of interval scales. Conversion to quartile deviations (Q) was based on the constant relationship between Q and s for normally distributed data, $Q = .6745\ s$.

Question 6 (Workers): Extent Task Is Part of the Position

0 = Definitely not a part of my job.
1 = Under unusual circumstances may be a minor part of my job.
2 = (Not defined).
3 = (Not defined).
4 = A substantial part of my job.
5 = (Not defined).
6 = (Not defined).
7 = A most significant part of my job.

Questions 8 (Workers) and 9 (Supervisors): Task Importance to Job

1 = Low importance (relatively unimportant part of the job).
2 = Moderate importance (important but not essential).
3 = High importance (essential part of the job that decisively influences the effectiveness of the office operations).

Table 1

Summaries of Task Relevance Data

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers 1%	Percent Who Now Do Each: Desired by Supervisors 2%	Extent Tasks Are Part of The Job: Average Rating by Workers 6	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job 6%	Relative Importance of Tasks to Job: Average Rating by Workers Doing It 8	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done 9	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task 3	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done 4
DUTY A: SUPERVISING DATA SERVICES FUNCTIONS									
1. Analyze company operations to determine where most significant improvements can be made.		12	32	1.0	8	2.2	2.0	Monthly	Monthly
2. Analyze data processed for possible modification and combination of reports.		58	69	2.7	35	2.1	2.0	Monthly	Monthly
3. Analyze data processed to make sure that desired information is obtained.		68	72	3.6	50	2.8	2.7	Weekly	Weekly
4. Analyze documentation for completeness and accuracy for data processing operations and control.		65	76	3.2	42	2.4	2.6	Monthly	Monthly
5. Analyze functional area reports for format errors.		38	54	2.2	32	2.3	2.4	Monthly	Monthly

6. Balance and correct reports.	35	34	1.7	17	2.3	2.5	Monthly	Monthly
7. Brief supervisor and staff.	43	59	2.2	32	2.2	2.1	Monthly	Weekly
8. Conduct on-the-job training for data services personnel.	25	54	1.2	7	2.0	1.7	Yearly	Monthly
9. Coordinate work of data services unit with activities furnishing report data.	27	39	1.6	15	2.1	2.0	Monthly	Weekly
11. Establish data services production controls and standards.	20	38	1.0	10	2.2	2.1	Yearly	Monthly
14. Inspect methods used to process data.	35	52	1.6	15	1.8	2.2	Monthly	Monthly
15. Orient newly assigned data services personnel.	22	52	1.3	10	2.0	1.8	Yearly	Yearly
19. Monitor the meeting of deadlines.	23	48	1.5	15	2.3	2.3	Monthly	Weekly
20. Notify person of prime responsibility of deadlines.	23	41	1.3	17	2.3	2.1	Monthly	Monthly
23. Plan and schedule data services work assignments.	15	26	.7	7	2.0	2.0	Monthly	Monthly
26. Review machine run reports for accuracy.	37	42	1.9	23	2.4	2.5	Weekly	Weekly
27. Review operations to devise more efficient procedures.	42	55	1.9	23	2.2	1.8	Monthly	Monthly
28. Schedule input from person of prime responsibility.	20	24	1.3	12	2.0	2.0	Yearly	Monthly
31. Supervise distribution of reports or programs.	20	30	.8	2	1.3	1.8	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
DUTY B: SUPERVISING AUTOMATIC DATA PROCESSING EQUIPMENT OPERATIONS									
34.	Brief supervisor and staff.	17	31	.8	7	2.4	2.1	Monthly	Weekly
36.	Coordinate errors in programming logic with programmers.	25	58	2.0	27	2.3	2.6	Monthly	Weekly
37.	Coordinate one time report requirements with person of prime responsibility.	27	64	2.1	25	2.4	2.2	Monthly	Monthly
39.	Coordinate with programmers and systems personnel on matters of joint interest.	32	49	1.7	15	2.4	2.5	Weekly	Weekly
42.	Develop computer operating instructions.	43	64	2.3	32	2.1	2.3	Monthly	Monthly

43. Establish data automation production controls and standards.	18	26	.8	10	1.9	1.9	Monthly	Monthly
45. Evaluate performance history on specific jobs.	12	31	.9	8	1.7	1.6	Monthly	Yearly
47. Inform person of prime responsibility of repeated errors in input data	33	49	1.9	20	2.6	2.0	Monthly	Monthly
49. Maintain operating manuals and directives affecting machine room functions.	10	30	.9	13	-	2.0	Monthly	Monthly
54. Plan and conduct on-the-job training data processing procedures.	10	29	.6	5	1.7	1.8	Yearly	Yearly
59. Prepare operating instructions concerning local reports.	37	55	1.6	17	2.3	2.3	Monthly	Monthly
60. Prepare recommendations for improved efficiency in automatic data processing equipment operations	10	60	.8	8	-	1.9	Yearly	Monthly
61. Prepare recommendations for local operating instructions concerning programs	25	49	2.0	25	2.1	2.0	Monthly	Monthly
65. Review completed programs for accuracy	52	65	3.7	53	2.8	2.0	Monthly	Monthly
68. Schedule basic input into automated data systems.	17	30	1.3	12	2.0	2.0	Yearly	Monthly
77. Train personnel in method of creating input and using output.	23	40	1.8	17	2.2	2.2	Yearly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers 1%	Percent Who Now Do Each: Desired by Supervisors 2%	Extent Tasks Are Part of The Job: Average Rating by Workers 6	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job 6%	Relative Importance of Tasks to Job: Average Rating by Workers Doing It 8	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done 9	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task 3	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done 4
DUTY C: SUPERVISING PROGRAMMING									
78.	Analyze programs evaluations, reviews or reports for problem identification.	37	60	2.1	25	2.5	2.5	Monthly	Monthly
79.	Conduct on-the-job training in programming.	32	68	1.2	10	1.8	2.1	Yearly	Yearly
80.	Coordinate explanation of error print-outs with machine configuration.	22	40	1.4	14	2.2	1.9	Monthly	Monthly
81.	Coordinate flow of data from one report to another.	62	68	2.5	27	2.3	2.4	Monthly	Weekly
82.	Coordinate programming requirements with machine configuration.	50	76	2.5	30	2.5	2.3	Monthly	Monthly

83. Coordinate with functional areas on programming aspects of new systems being devised.	45	74	2.6	32	2.3	2.4	Monthly	Monthly
84. Coordinate with functional areas on programming aspects of reports being developed.	52	79	2.8	37	2.3	2.4	Monthly	Monthly
85. Coordinate with operations on preparation of computer operating instructions.	45	79	2.5	35	2.2	2.1	Monthly	Monthly
86. Coordinate with systems designers on programming aspects of new systems.	50	86	2.9	44	2.5	2.6	Monthly	Monthly
87. Coordinate with systems designers on programming aspects of reports being developed.	53	81	3.0	44	2.3	2.4	Monthly	Monthly
88. Design operating systems.	12	21	1.1	10	2.0	2.0	-	Yearly
89. Develop local operating procedures for programming.	22	50	1.1	13	2.0	1.8	Yearly	Monthly
90. Develop programming aids.	23	55	1.2	10	1.7	1.8	Monthly	Yearly
91. Develop program test and maintenance systems.	17	56	1.7	22	2.7	1.9	Monthly	Yearly
92. Establish controls for program card decks and magnetic files.	23	40	1.2	15	2.2	1.9	Yearly	Yearly
93. Establish programming priorities.	40	47	1.5	12	2.1	2.3	Monthly	Monthly
94. Establish run priorities for operations.	12	32	1.0	8	1.8	2.0	Monthly	Monthly
100. Follow-up programs being developed at local level.	18	48	1.5	15	2.1	2.3	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	Percent Who Now Do Each		Extent Tasks Are Part of The Job		Relative Importance of Tasks to Job		How Often Tasks Are Done by Each Worker Who Performs Them	
	Actual, by Workers	Desired by Supervisors	Average Rating by Workers	% Who Say It Is at Least a Substantial Part of Their Job	Average Rating by Workers Doing It	Average Rating by Supervisors Desiring It Done	Average Frequency by Each Worker Doing the Task	Average Frequency Wanted by Supervisors Desiring It Done
TIQ Question:	1%	2%	6	6%	8	9	3	4
101. Identify problem areas in existing systems.	55	81	2.7	42	2.5	2.6	Monthly	Monthly
102. Initiate procedures for preparation of input to computer.	43	64	2.6	33	2.4	2.3	Monthly	Monthly
104. Maintain instruction worksheets for operational programs.	33	58	1.7	22	2.1	2.2	Monthly	Monthly
105. Maintain library of manuals, directives, or publications on computer programming.	23	54	1.1	10	1.4	1.9	Monthly	Monthly
106. Orient newly assigned programmers.	25	74	1.4	10	2.3	2.0	Yearly	Yearly
107. Perform follow-up review of new systems.	27	46	1.5	15	2.3	2.3	Yearly	Monthly
108. Perform program analysis.	48	76	3.2	47	2.4	2.3	Monthly	Weekly

110.	Prepare correspondence concerning data services.	28	35	.9	5	1.9	1.8	Monthly	Yearly
111.	Prepare operational briefings.	15	39	.8	2	1.9	1.7	Monthly	Monthly
112.	Process request for new or revised reports.	35	55	1.8	23	2.1	2.3	Monthly	Monthly
113.	Read and interpret regulations manuals or administrative orders.	30	48	1.3	15	1.9	2.1	Monthly	Monthly
114.	Requisition programming aids.	10	31	.5	3	-	1.2	Monthly	Yearly
115.	Review completed programs for accuracy.	58	74	3.1	50	2.6	3.0	Monthly	Monthly
116.	Review detail flow charts prior to preparation of programs.	40	68	2.1	25	2.4	2.4	Monthly	Monthly
117.	Review requests for development of existing systems.	35	56	1.6	18	2.3	2.0	Monthly	Monthly
119.	Schedule development of programs.	27	44	1.3	8	2.0	2.1	Monthly	Monthly
120.	Supervise and edit documentation of programs.	22	52	1.3	8	1.6	2.1	Monthly	Monthly
DUTY D:	SUPERVISING DATA SYSTEMS ANALYSIS AND DESIGN								
124.	Control error correction reruns.	28	36	1.4	10	2.2	2.3	Monthly	Monthly
125.	Coordinate with programming supervisors in designing new programming systems.	23	58	2.0	32	2.5	2.5	Monthly	Weekly
126.	Coordinate with staff in the development of new systems.	32	59	2.0	27	2.4	2.4	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers 1%	Percent Who Now Do Each: Desired by Supervisors 2%	Extent Tasks Are Part of The Job: Average Rating by Workers 6	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job 6%	Relative Importance of Tasks to Job: Average Rating by Workers Doing It 8	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done 9	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task 3	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done 4
127.	Design presentations for staff viewing of computer systems.	15	39	1.0	12	1.5	1.8	Yearly	Yearly
128.	Document new computer processes.	37	60	2.7	35	2.2	2.3	Monthly	Monthly
129.	Establish standard data elements, codes, and names for systems design.	33	36	1.6	15	2.4	2.1	Yearly	Yearly
130.	Establish systems analysis and design priorities.	13	34	1.1	13	2.1	2.1	Yearly	Monthly
132.	Estimate systems analysis and design work requirements.	25	40	1.7	20	1.8	2.1	Yearly	Monthly
141.	Review requests for development of new systems.	13	44	1.4	15	2.3	2.2	Yearly	Monthly
DUTY E:	PERFORMING DATA PROCESSING FUNCTIONS								
143.	Arrange reruns and special checks to proof final output.	60	56	2.9	45	2.4	2.4	Monthly	Weekly

144.	Audit data systems of functional area reports.	15	19	1.4	8	2.1	2.3	Yearly	Monthly
145.	Check error with consultant, correct and resubmit.	43	36	2.0	22	2.4	2.8	Monthly	Weekly
146.	Code functional area reports.	17	28	2.5	33	1.8	2.5	Monthly	Weekly
147.	Compare data arithmetically with predetermined control totals.	47	48	2.8	37	2.4	2.6	Monthly	Weekly
148.	Compile progress reports on data processed.	25	22	1.3	8	1.8	1.7	Monthly	Monthly
149.	Compute due-in and due-out dates for controlled reports.	10	26	1.2	8	-	1.9	Yearly	Monthly
150.	Contact functional areas for submission and evaluation of data.	32	36	1.4	10	1.9	1.8	Monthly	Monthly
152.	Control basic input into automated data systems	23	22	1.2	12	2.0	1.9	Weekly	Weekly
155.	Coordinate with operators, programmers, or systems personnel on matters of joint interest.	53	62	2.3	20	2.3	2.4	Weekly	Weekly
156.	Develop and maintain procedures relative to computer input and product distribution including quality check.	30	56	1.9	13	2.1	2.4	Monthly	Monthly
159.	Extract figures needed for special analysis and studies	20	39	1.3	17	1.8	1.6	Yearly	Yearly
160.	Maintain files of reports, regulations, or directives pertaining to data systems	20	36	.9	7	2.0	1.8	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
163.	Notify office of prime responsibility of new or revised reporting requirements.	15	28	1.2	15	2.4	2.3	Monthly	Yearly
165.	Perform assembly, rearrangement and spot edits.	13	15	.8	7	2.0	2.3	Weekly	Monthly
167.	Prepare correspondence concerning data services.	18	30	.9	5	1.9	1.7	Monthly	-
168.	Prepare data service forms.	17	35	1.2	8	2.0	1.8	Monthly	-
169.	Prepare operational briefings.	10	34	.6	2	2.0	1.8	Montnly	Monthly
170.	Prepare recommendations for improved efficiency in operations.	23	38	1.3	12	2.1	2.0	Yearly	Monthly
171.	Process requests for new or revised reports.	33	49	2.2	29	2.4	2.4	Monthly	Monthly

172.	Read and interpret regulations, manuals, or administrative orders.	28	55	1.9	20	1.8	2.0	Weekly	Monthly
173.	Schedule computer runs for several days or more in advance.	20	30	1.2	14	1.6	1.8	Monthly	Monthly
	DUTY F: OPERATING AUTOMATIC DATA PROCESSING EQUIPMENT								
174.	Analyze job steps to determine data recovery points.	42	50	2.3	26	2.3	2.4	Monthly	Monthly
175.	Analyze machine operation through use of messages received from the equipment.	28	31	1.6	14	2.3	2.3	Weekly	Weekly
176.	Analyze machine operation through use of conditions displayed.	25	26	1.5	13	2.2	2.2	Weekly	Weekly
177.	Change sequence of jobs run to cut down operational steps.	33	44	2.0	15	2.2	2.0	Monthly	Monthly
178.	Determine cause of machine stops and malfunctions.	30	52	1.9	22	2.6	2.7	Weekly	Weekly
180.	Interrogate memory locations on the console.	18	25	.8	8	-	1.4	Monthly	Weekly
181.	Load programs and data cards.	45	29	1.0	8	1.6	2.3	Weekly	Daily +
182.	Locate tapes in storage media or tape library.	35	15	.7	7	1.3	1.9	Weekly	Daily
183.	Log and scratch expired tapes in library.	23	18	.6	7	1.5	1.8	Weekly	Weekly
184.	Maintain card files (source object, etc.).	37	34	1.6	15	2.1	2.5	Daily	Daily

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
185.	Maintain current run tapes.	18	16	.9	7	1.8	-	Weekly	Weekly
188.	Make switch settings.	15	19	.6	5	1.5	1.6	Monthly	Daily +
189.	Operate card reader.	48	30	1.0	8	1.3	1.9	Weekly	Daily
190.	Operate collator.	12	16	.5	2	1.0	1.0	Yearly	-
191.	Operate console.	45	30	.9	7	1.2	2.0	Weekly	Daily
192.	Operate decollator.	12	20	.5	2	1.2	1.6	Monthly	Monthly
194.	Operate forms bursting equipment.	15	14	.4	2	1.1	-	Yearly	Monthly
195.	Operate interpreter.	32	18	1.0	3	1.1	1.0	Monthly	Weekly
196.	Operate key punch machines or verifiers.	70	49	2.2	18	1.4	1.8	Daily	Daily +
197.	Operate magnetic tape unit.	43	22	.7	7	1.3	1.8	Weekly	Daily

200.	Operate remote terminals.	38	39	1.2	10	2.0	1.8	Daily	Daily
201.	Operate reproducer.	40	16	.7	3	1.0	1.0	Monthly	Daily
202.	Operate sorter.	28	24	.9	2	1.1	1.7	Monthly	Weekly
203.	Operate time sharing system terminal.	20	26	1.0	10	2.3	1.8	Daily +	Daily +
204.	Perform card-to-printer operation.	38	35	1.1	8	1.4	1.9	Monthly	Weekly
205.	Perform compilation or assembly.	60	54	2.4	30	2.2	2.5	Daily	Daily
206.	Perform debugging runs.	58	55	3.1	43	2.6	2.7	Weekly	Daily
208.	Perform disk-to-printer operation.	42	34	1.3	13	1.6	2.1	Monthly	Daily
209.	Perform on-the-job training of operators.	17	20	.5	5	1.9	1.4	Yearly	Monthly
211.	Perform punched card-to-disk conversion operation.	32	28	.9	7	1.6	2.5	Monthly	Weekly
212.	Perform punched card-to-tape conversion operation.	37	26	1.0	8	1.5	2.4	Monthly	Weekly
213.	Perform tape-to-card conversion operation.	30	21	.8	3	1.3	2.1	Yearly	-
215.	Perform tape-to-printer operation.	38	26	1.1	10	1.5	2.4	Weekly	Weekly
216.	Perform tape-to-tape operation (copy).	42	30	1.3	12	1.5	2.0	Monthly	Weekly
217.	Prepare labels for output tapes.	42	29	1.2	15	1.5	1.5	Monthly	Daily
218.	Prepare control cards for jobs.	77	60	3.1	47	2.3	2.8	Weekly	Daily
219.	Prepare control decks.	63	48	2.7	33	2.1	2.9	Weekly	Daily

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
220.	Prepare service action requests.	18	25	1.0	10	2.0	1.7	Weekly	Daily
221.	Prepare special carriage control tapes.	43	40	.8	7	1.6	1.6	Monthly	Yearly
222.	Record time log for scheduled jobs.	13	24	.5	3	1.3	2.0	Monthly	Weekly
224.	Review processing steps before job is put on computer.	57	52	2.2	28	2.5	2.5	Weekly	Weekly
226.	Screen reports, cards, or programs for obvious errors and initiate corrections.	48	39	2.0	19	2.5	2.6	Weekly	Daily
227.	Select and mount disks.	30	18	.6	3	1.4	2.5	Monthly	Daily +
228.	Select and mount tapes.	42	20	.6	3	1.4	1.6	Monthly	Daily +

229.	Select subroutines to accomplish jobs received for processing	30	25	1.5	18	2.2	2.3	Monthly	Weekly
230.	Set up computer for operation	27	26	.6	3	1.6	2.0	Monthly	Weekly
236.	Update current source programs	73	60	4.0	57	2.7	2.8	Weekly	Weekly
237.	Update systems programs (object run tapes-ORT's).	20	19	1.8	25	2.5	2.3	Monthly	Monthly
238.	Wire control panels.	15	10	.3	2	1.0	-	Yearly	Monthly
239.	Wire reproducer control panels.	23	14	.4	0	1.0	1.0	Yearly	Monthly
DUTY G: PERFORMING SYSTEMS PROGRAMMING									
240.	Analyze and debug manufactured software.	22	31	1.0	10	2.2	2.2	Monthly	Monthly
241.	Design assembly programs.	15	21	1.0	12	2.0	1.8	Monthly	-
245.	Diagnose and correct operating system component errors.	12	16	.6	3	1.7	1.9	Monthly	-
246.	Maintain back-up procedures for the operating system.	12	24	1.1	12	2.4	2.3	Monthly	Monthly
248.	Perform system generation, establish source and relocatable library sizes, etc.	12	32	.9	13	2.7	2.2	Yearly	Monthly
249.	Plan, coordinate and install new hardware and software.	10	32	.5	5	2.2	2.3	Yearly	Possible
252.	Work with operations supervisor to determine best operating procedures to be followed.	18	49	1.0	10	2.2	2.1	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers TIQ Question:	Percent Who Now Do Each: Actual, by Workers 1%	Percent Who Now Do Each: Desired by Supervisors 2%	Extent Tasks Are Part of The Job: Average Rating by Workers 6	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job 6%	Relative Importance of Tasks to Job: Average Rating by Workers Doing It 8	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done 9	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task 3	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done 4
253. Write macros, catalog macros, standard source and relocatable data.	17	36	.9	10	2.1	1.9	Monthly	Possible
254. Write programs to convert tapes from one computer to another.	20	46	1.0	12	1.9	1.6	Seldom	Yearly
255. Write programs to print tapes, punch cards, or read cards.	55	64	3.1	38	2.3	2.3	Monthly	Monthly
DUTY H: PERFORMING SCIENTIFIC PROGRAMMING								
263. Construct programs or routines using single precision floating points.	12	15	.5	3	-	1.8	Yearly	-
267. Minimum program size.	18	20	1.0	8	1.9	1.8	Monthly	Yearly

268.	Optimize program execution times.	28	45	1.6	20	1.8	1.9	Monthly	Monthly
269.	Perform non-linear programming.	10	15	1.0	10	1.5	1.7	-	Monthly
278.	Write programs for direct mathematical computations.	18	28	1.1	10	2.4	1.9	Yearly	Monthly
284.	Write programs for random sampling.	10	32	.8	7	2.0	1.3	Seldom	Seldom
285.	Write programs for research information retrieval.	15	22	.8	8	2.3	1.8	Yearly	Yearly
DUTY I: PROGRAMMING COMPUTERS									
295.	Adapt programs written in symbolic language to different computer configuration.	37	39	1.2	10	2.0	2.0	Yearly	Seldom
296.	Analyze applications to select appropriate utility programs and subroutines.	63	69	.2	2	2.3	2.4	Monthly	Monthly
297.	Analyze computer inputs prior to test run and follow-up.	80	75	4.2	70	2.6	2.7	Weekly	Weekly
298.	Analyze core dumps, evaluate and recommend solutions.	92	88	4.3	67	2.5	2.5	Weekly	Weekly
299.	Analyze programming documentation.	85	82	4.1	62	2.2	2.6	Weekly	Monthly
300.	Analyze programs, evaluations, reviews or reports for problem identification.	82	76	4.2	67	2.4	2.6	Monthly	Weekly
301.	Analyze programs for relationship to business financial budget.	18	24	1.8	20	2.0	1.6	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
302.	Audit computer inputs after test run and follow-up.	67	66	3.5	52	2.5	2.5	Monthly	Weekly
303.	Calculate ratios, percentages, means or standard deviations from reported data.	27	39	2.0	20	1.8	1.9	Yearly	Yearly
304.	Calculate trends from reported data.	12	21	1.2	8	1.7	1.3	Yearly	Yearly
305.	Catalogue data sets.	43	49	2.4	33	2.2	-	Weekly	Weekly
306.	Code computer applications using a reports program generator.	33	61	2.0	22	1.8	-	Yearly	Monthly
307.	Code disk sort programs.	57	66	2.7	43	2.0	2.5	Monthly	Monthly
308.	Code programs utilizing more than one language.	50	65	2.2	0	2.0	1.9	Yearly	Yearly

309.	Code routine computer programs.	87	85	4.9	77	2.4	2.8	Weekly	Daily
310.	Code software utility programs.	40	58	2.6	40	2.0	2.0	Monthly	-
311.	Code tape sort programs.	40	45	2.2	33	1.9	2.2	Monthly	Monthly
312.	Compile and record data.	55	56	2.9	37	2.2	2.0	Weekly	Monthly
313.	Confer with functional area personnel to prepare specific program routines.	48	65	3.3	50	2.0	2.2	Monthly	Monthly
314.	Coordinate with electronic data processing services to receive computer products to assist management analysis.	13	31	1.1	10	1.7	1.5	Yearly	Monthly
315.	Coordinate with functional areas on programming aspects of new systems being devised and reports being developed.	52	75	2.6	35	2.3	2.2	Monthly	Monthly
316.	Coordinate with office of prime responsibility to evaluate factors and standards.	35	48	2.0	25	2.1	2.1	Monthly	Monthly
317.	Coordinate with systems design personnel to prepare overall block diagrams.	33	69	2.2	20	2.2	2.1	Monthly	Monthly
318.	Debug programs.	95	95	5.5	83	2.8	2.9	Weekly	Daily
319.	Design disk storage allocation.	57	68	3.2	45	2.2	2.4	Monthly	Weekly
320.	Design or lay out core storage formats.	40	51	2.7	37	2.2	2.3	Monthly	Weekly
321.	Design or lay out disk storage formats.	68	88	3.1	42	2.2	2.4	Monthly	Monthly
323.	Design or lay out magnetic tape storage formats.	73	72	3.4	40	2.2	2.5	Monthly	Weekly

Table 1 - Continued

Tasks of Business Data Programmers — TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
	1%	2%	6	6%	8	9	3	4
325. Design random access formulas.	18	38	1.4	15	2.4	1.9	Yearly	Monthly
326. Design report formats.	90	80	4.1	56	2.2	2.5	Monthly	Monthly
327. Design software utility programs.	23	30	1.4	15	1.8	2.3	Yearly	Yearly
328. Design tape input/output formulas.	30	19	1.8	17	2.2	2.1	Monthly	Monthly
329. Design tape or disk sort programs.	28	30	1.7	22	1.9	2.4	Monthly	Weekly
330. Desk check or debug programs after assembly of compilation.	92	82	5.4	83	2.6	2.8	Daily	Daily
331. Desk check programming logic for punching errors prior to assembly or compilation.	87	75	4.2	60	2.1	2.5	Weekly	Daily
332. Determine most applicable programming language for problems.	62	56	2.6	38	2.2	2.1	Monthly	Monthly

333.	Develop flow charts for handling source data by off-line support equipment.	38	46	1.9	23	1.8	1.7	Monthly	Yearly
334.	Develop computer operating instruction, technical bulletins.	28	55	1.7	2	1.8	1.7	Monthly	Monthly
336.	Develop operation procedures for programming.	32	35	1.1	10	2.2	1.9	Monthly	Monthly
337.	Develop program logic charts for machine routines.	35	49	1.9	24	2.2	2.2	Monthly	Monthly
338.	Develop subroutines.	52	72	2.7	30	2.0	2.0	Monthly	Monthly
339.	Develop systems for collecting, processing, and storing data.	55	56	3.1	46	2.6	2.3	Monthly	Yearly
340.	Develop uniform factors for improved planning and programming.	15	31	1.5	17	2.1	1.6	Monthly	Seldom
341.	Edit computer programs for effective use of auxiliary storage media.	40	54	1.8	17	2.0	2.1	Monthly	Yearly
342.	Edit computer programs for efficient use of logical and arithmetical components.	38	49	1.9	20	2.0	2.0	Monthly	Monthly
343.	Edit computer programs for effective use of memory.	60	62	2.3	28	2.1	2.1	Monthly	Monthly
344.	Evaluate deviations from standards.	20	31	1.2	12	2.1	2.1	Monthly	Monthly
345.	Evaluate programs for cost effectiveness.	25	41	1.5	12	1.9	2.0	Monthly	Yearly
346.	Exploit parallel processing capabilities to gain operational effectiveness.	28	40	1.1	13	2.1	2.2	Yearly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers 1%	Percent Who Now Do Each: Desired by Supervisors 2%	Extent Tasks Are Part of The Job: Average Rating by Workers 6	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job 6%	Relative Importance of Tasks to Job: Average Rating by Workers Doing It 8	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done 9	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task 3	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done 4
347.	Extract figures needed for special analysis and studies.	37	44	1.7	15	1.9	1.8	Yearly	Monthly
348.	Follow-up analyses, special studies or staff studies.	15	32	1.2	10	1.8	1.6	Yearly	Yearly
350.	Incorporate standard routines into programs.	68	74	3.6	50	1.9	2.3	Monthly	Weekly
351.	Incorporate utility routines into programs.	62	70	3.5	43	2.0	2.3	Monthly	Weekly
352.	Insert standard changes into existing programs.	80	76	3.9	53	2.2	2.5	Monthly	Monthly
353.	Integrate planned routines with the overall programming systems (segmenting).	40	52	2.3	28	2.2	2.3	Yearly	Monthly

354. Isolate and correct programming errors discovered during testing.	98	81	5.4	85	2.8	3.0	Weekly	Weekly
355. Lay out memory maps.	18	30	1.8	18	1.8	2.1	Monthly	Monthly
356. Maintain and update library of program and processing documentation.	57	64	3.1	38	2.2	2.5	Monthly	Weekly
357. Maintain data bank.	18	29	1.7	15	2.6	2.4	Monthly	Monthly
358. Maintain files of management analysis work.	10	12	.8	7	2.0	1.8	Monthly	Possible
359. Maintain library of documentation of general purpose and utility programs.	37	42	1.3	15	1.9	2.1	Monthly	Monthly
360. Manually convert numbers from one number system to another.	47	36	1.8	27	1.9	1.9	Weekly	Weekly
361. Manually translate computer programs written in symbolic language into assembly language.	13	18	1.0	7	1.3	2.0	Yearly	Seldom
362. Obtain samples of data for use in analysis work.	48	46	2.3	22	2.3	1.9	Monthly	Monthly
363. Operate visual equipment.	27	20	.7	10	1.6	1.4	Monthly	-
364. Patch computer programs.	67	56	3.1	43	2.2	2.1	Monthly	Monthly
366. Perform program analysis.	65	66	3.7	58	2.5	2.3	Monthly	Weekly
367. Perform progress analysis.	27	22	1.8	23	2.4	2.0	Monthly	-
368. Perform real time programming.	27	41	1.6	22	2.2	2.2	Weekly	Monthly
370. Perform systems analysis to meet requirements of company functions.	40	41	2.2	25	2.6	2.2	Monthly	Yearly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
371.	Prepare and maintain briefings and visual presentations.	23	35	1.2	12	1.9	1.7	Yearly	Monthly
372.	Prepare console operator's run books.	45	44	1.6	22	2.2	2.3	Monthly	Monthly
373.	Prepare control card sheets for utility or library programs.	30	52	1.9	23	1.9	2.1	Monthly	Monthly
374.	Prepare detail flow charts.	80	68	3.2	38	2.0	2.5	Monthly	Monthly
375.	Prepare documentation including formats and layouts for input and output media.	90	74	4.4	65	2.4	2.6	Monthly	Monthly
376.	Prepare general and detailed flow charts.	82	71	3.8	53	2.1	2.5	Monthly	-
377.	Prepare instructions for operation of on-line peripheral equipment.	28	42	1.4	15	2.1	1.9	Monthly	-

378.	Prepare narrative reports showing results of analysis.	22	32	1.8	17	1.9	2.2	Monthly	Monthly
379.	Prepare operational reports.	13	14	.8	5	2.2	2.0	Monthly	Possible
380.	Prepare programming block diagrams.	55	69	2.4	27	1.7	2.3	Monthly	Monthly
381.	Prepare references for easy access to historical data.	12	21	1.0	5	1.9	1.8	Yearly	Possible
383.	Prepare statistical summaries of data.	20	25	1.2	12	1.7	1.5	Yearly	Possible
384.	Prepare summary cost reports.	10	22	.8	5	-	1.8	-	Possible
385.	Prepare testing instructions and control test data for use of console operator during test audits.	32	34	1.5	23	2.5	2.2	Monthly	Monthly
386.	Prepare upper management briefings.	12	28	.5	5	-	1.9	Yearly	Monthly
387.	Prepare visual materials for presentations.	22	34	1.0	8	1.9	1.8	Yearly	Monthly
388.	Read and interpret regulations, manuals, or administrative orders.	57	56	2.1	23	2.0	2.0	Monthly	Monthly
389.	Recommend corrections of modifications to systems.	70	71	2.6	28	2.2	2.2	Monthly	Monthly
390.	Review existing routines for applicability of new techniques.	45	61	2.1	20	2.0	2.0	Monthly	Monthly
391.	Review maintenance data.	17	25	1.0	3	2.0	2.5	Yearly	Monthly
394.	Revise computer programs.	98	84	4.8	83	2.5	2.8	Weekly	Weekly
395.	Select appropriate utility programs.	80	72	4.4	68	2.1	2.4	Weekly	Weekly

Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each		Extent Tasks Are Part of The Job		Relative Importance of Tasks to Job		How Often Tasks Are Done by Each Worker Who Performs Them	
		Actual, by Workers	Desired by Supervisors	Average Rating by Workers	% Who Say It Is at Least a Substantial Part of Their Job	Average Rating by Workers Doing It	Average Rating by Supervisors Desiring It Done	Average Frequency by Each Worker Doing the Task	Average Frequency Wanted by Supervisors Desiring It Done
		1	2	6	6	8	9	3	4
396.	Test new computer programs.	93	82	5.3	85	2.7	3.0	Weekly	Weekly
397.	Test revised computer programs.	93	82	5.2	83	2.7	3.0	Weekly	Weekly
400.	Write programs for inquiry routines.	37	61	2.1	25	2.2	2.0	Monthly	Yearly
401.	Write programs for local one-time applications.	88	81	3.7	50	2.0	2.5	Monthly	Monthly
402.	Write programs for remote data input.	22	55	1.4	17	2.4	1.8	Yearly	Yearly
403.	Write programs for the generation of data to be used for program testing.	55	62	2.4	18	2.0	1.9	Monthly	Yearly

DUTY J: PERFORMING FEASIBILITY STUDIES (PILOT PROJECTS)								
404. Brief functional area personnel on limits of data processing.	23	38	.9	7	2.3	2.3	Yearly	Yearly
405. Coordinate integration of systems with functional areas.	23	34	1.2	8	2.7	2.5	Monthly	Yearly
406. Coordinate requirements study with programmers and equipment operators.	10	32	.8	5	-	2.4	Yearly	Yearly
407. Coordinate with functional areas to determine output requirements.	33	41	2.2	27	2.6	2.5	Monthly	Yearly
410. Determine input/output characteristics and media for functional areas.	25	40	1.5	13	2.6	2.5	Monthly	Yearly
411. Determine size and time elements of processing runs.	35	49	2.0	18	1.9	1.9	Monthly	Monthly
412. Develop standard data elements and codes for functional areas.	28	42	1.6	18	2.2	2.3	Yearly	Yearly
413. Evaluate present and proposed costs of input/output requirements.	10	32	.9	8	2.2	2.3	Yearly	Yearly
415. Evaluate use of existing systems of programs for pilot projects.	17	42	1.1	7	1.9	2.2	Yearly	Yearly
416. File and record characteristics and requirements for functional area.	10	25	1.0	8	2.0	1.6	Yearly	Yearly
418. Investigate operating time of communications of teleprocessing requirements.	10	29	.6	5	-	1.9	Seldom	Yearly

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Table 1 - Continued

Tasks of Business Data Programmers	TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
		1%	2%	6	6%	8	9	3	4
419.	Plan functional integration of reports and systems.	20	26	1.2	12	2.4	2.5	Yearly	Monthly
420.	Prepare computer logic diagrams.	25	45	1.8	22	2.1	2.3	Monthly	Monthly
421.	Prepare detailed document flow diagrams.	30	44	2.3	32	2.0	2.1	Monthly	Monthly
422.	Prepare feasibility study on present system to determine need for new system.	10	30	1.1	13	2.5	2.3	Yearly	Yearly
DUTY K:	DESIGNING DATA SYSTEMS								
427.	Control system input and output.	23	25	1.3	10	2.5	1.8	Monthly	-
428.	Coordinate with programmers and functional areas to establish new applications.	33	45	2.0	23	2.2	2.3	Monthly	Monthly

431.	Design or modify audit trails.	18	51	1.4	20	2.3	2.1	Yearly	Monthly
432.	Design or modify data interface requirements.	17	38	1.4	13	2.1	2.3	Yearly	Monthly
433.	Design or modify feedback controls.	15	30	1.3	12	2.0	2.4	Yearly	Yearly
434.	Design or modify systems to maximize integration of operations.	12	26	1.4	17	2.3	2.1	Yearly	Yearly
435.	Design punched card media layouts.	45	62	2.6	29	2.1	2.4	Monthly	Monthly
438.	Determine processing, storage, and retrieval techniques.	25	59	2.2	32	2.5	2.3	Monthly	Monthly
439.	Inspect system flow.	37	46	2.0	28	2.4	2.4	Monthly	Monthly
440.	Monitor updating of format and data items.	13	39	1.9	20	2.4	2.1	Monthly	Monthly
443.	Prepare documentation for systems flow charts.	43	49	2.6	40	2.3	2.6	Monthly	Monthly
445.	Prepare or analyze data for testing new systems.	45	56	2.6	38	2.4	2.5	Monthly	Monthly
447.	Prepare systems block diagrams.	28	49	2.1	30	2.1	2.3	Monthly	Monthly
448.	Recommend changes in data automation proposals to person of prime responsibility.	27	49	1.3	15	2.2	1.9	Monthly	Yearly
449.	Review data automation proposals (DAP's) or proposals submitted by person of prime responsibility.	12	26	.9	8	2.0	2.2	Monthly	Monthly

Table 1 - Continued

Tasks of Business Data Programmers TIQ Question:	Percent Who Now Do Each: Actual, by Workers	Percent Who Now Do Each: Desired by Supervisors	Extent Tasks Are Part of The Job: Average Rating by Workers	Extent Tasks Are Part of The Job: % Who Say It Is at Least a Substantial Part of Their Job	Relative Importance of Tasks to Job: Average Rating by Workers Doing It	Relative Importance of Tasks to Job: Average Rating by Supervisors Desiring It Done	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency by Each Worker Doing the Task	How Often Tasks Are Done by Each Worker Who Performs Them: Average Frequency Wanted by Supervisors Desiring It Done
	1%	2%	6	6%	8	9	3	4
450. Review technological development in communications or teleprocessing requirements.	13	31	.7	5	-	1.9	Monthly	Seldom
451. Review technological development in processing, storage, and information retrieval.	18	39	.9	7	2.3	1.8	Monthly	Monthly
452. Study purpose and design of new systems.	43	48	1.9	23	2.4	2.5	Yearly	Monthly
DUTY L: PERFORMING DATA SYSTEMS ANALYSIS								
457. Define objectives of system studies.	30	29	1.2	15	2.4	2.3	Yearly	Yearly
458. Develop directives pertaining to data systems.	15	16	.9	7	2.1	1.8	Yearly	Possible

460.	Evaluate data for duplications and unnecessary requirements.	47	45	1.8	13	2.3	2.6	Monthly	Monthly
461.	Evaluate data for relationship of output to source documents.	48	50	2.0	22	2.2	2.6	Monthly	Monthly
462.	Evaluate file contents and sequences.	57	60	2.4	28	2.2	2.5	Monthly	Monthly
463.	Evaluate problem areas adaptable to modification.	47	51	2.3	28	2.3	2.5	Monthly	Monthly
464.	Evaluate utilization of output products.	32	36	1.6	17	2.0	2.1	Monthly	Yearly
465.	Identify data interface requirements.	22	40	1.6	22	2.5	2.3	Monthly	Monthly
466.	Identify problem areas in the system.	58	62	2.7	40	2.7	2.7	Monthly	Monthly
467.	Identify source documents, internal files and final reports.	45	56	2.5	32	2.4	2.6	Monthly	Monthly
468.	Perform initial analysis of requests for systems studies.	33	32	1.6	17	2.3	2.3	Monthly	Monthly
469.	Prepare decision charts.	22	30	1.6	15	1.8	1.9	Yearly	Monthly
472.	Provide systems consultative services to potential customers.	17	35	1.3	15	2.6	2.4	Monthly	Monthly
474.	Update and review schedules and program networks.	15	31	1.0	15	2.0	1.8	Monthly	Monthly

Frequency of Use of Scale Categories

It is of interest to note the extent to which each of the scale categories on the questions of the Task Inventory Questionnaires were used. Table 2 provides an overall tally of these responses. There seemed to be a quite reasonable distribution of category usage, with some emphasis on those which might logically be expected.

Of particular notice is the use of the four undefined scale levels on Question 6, Extent Task Is Part of the Job. Undefined levels 2, 3, 5, and 6 together accounted for 47% of all seven response levels beyond the "0" ("not a part of the job") level. Though the major portion of these was accounted for by levels 2 and 3, the results help allay concern that workers would not understand or use scale levels which were not defined in some statement form.

Consistency and Interrelationships of Task Questions

Each of the groups of 60 programmers and 40 supervisors answering a task question were divided alternately into two subgroups of 30 programmers and 20 supervisors each. These subgroups of respondents were then used to recompute average responses for each task question. This permitted a comparison to be made of how consistent were the average answers for a question, by relating those given by one half of the respondents to those given by the other half of respondents. Table 3 lists the product-moment correlations obtained between subgroups for Questions 1 through 11, and for training categories within Questions 10 through 13. The correlations were calculated across all 474 listed tasks, even though 161 were subsequently considered to be of low relevance to the occupation.

Where a question called for an answer to be given for each task, it will be noted that the subgroups provided highly consistent answers. Where the respondents were to provide answers only for tasks marked as part of the job, the correlations declined sharply. In these instances many task averages were based on fewer respondents than when all were required to mark an answer.

Such apparent instability, however, is somewhat misleading. Many of the tasks were not highly relevant to the occupation of Business Data Programmer. These contributed considerable instability to average values computed on a task question, because so few ratings entered into their computation.

Table 2

Distribution of Individual Responses on Each Task Question

Response Categories	60 Programmers	40 Supervisors
Occurrence of Task (Questions 1 and 2)		
Task Not Performed		
Group 1		
(Programmers Answering Questions 1-3-8)	21,542	
(Supervisors Answering Questions 2-7-9-10)		12,268
Group 2		
(Supervisors Answering Questions 2-4-13-11)		12,408
Frequency of Task Performance (Questions 3 and 4)		
Frequency Categories:		
Not Normal, But Have Done	283	830
Less Than Once per Year	252	299
Once per Year	1,311	893
Once per Month	2,707	2,127
Once per Week	1,443	1,119
Once per Day	490	579
Several Times Daily	288	620
Extent Task Is Part of the Job (Question 6)[a]		
Extent Categories:		
Not a Part of Job	15,527	
Minor Part	3,736	
2	2,525	
3	2,216	
Substantial Part	2,070	
5	673	
6	645	
Most Significant Part	977	

Table 2-continued

Response Categories	60 Programmers	40 Supervisors
Time to Qualify (Question 7)		
On-the-Job Qualification Time Categories:		
Never Necessary		105
Beyond 3 Years on Job		285
Within 1st 3 Years		1,151
Within 1st Year		1,524
Within 1st 6 Months		1,294
Within 1st 3 Months		1,205
Within 1st Month		871
Within 1st Week		214
Task Importance to the Job (Questions 8 and 9)		
Importance Categories:		
Low (relatively unimportant)	1,302	1,415
Moderate (important, but not essential)	2,790	2,783
High (essential)	2,172	2,423
Supervisor Suggestions (Questions 10 and 11)		
Possible to Improve Task Procedures		1,416
Means for Improvement of Task Procedures:		
Handbook or Other Job Guide		222
Improve Directives		160
Improve Training Content		565
Research or Special Study		264
Don't Know		83
Other		44
Not Marked, or Unusable Response		78
Poorly Performed Tasks		765
Reasons for Unsatisfactory Task Performance:		
Lack of Interest or Poor Attitude		201
Ineffective Training Programs		217
Have More Important Matters To Do		149
Extremely Difficult to Master		122
Don't Know		44
Other		21
Not Marked, or Unusable Response		11

Table 2-continued

Response Categories	60 Programmers	40 Supervisors
Learning Location (Questions 12[a] and 13)		
Location Categories		
Prior to Training	145	119
In Formal Training Program	7,702	2,509
On the Job Site, After Employment	9,423	2,602
Experience in Related or Entry Occupation	2,686	875
Other	2	2
Nothing to Learn	7,422	245
Not Marked, or Unusable Response	1,060	200

[a]Questions 6 and 12 were to be answered for all listed tasks; hence, the large frequency of answers that a task is "not part of the job" or there is "nothing to learn." Workers answering Questions 6 and 12 were not asked first to check tasks on Question 1. In Question 12 this interpretation is confounded with a possible intent to note actual job tasks which in fact require no special learning.

Table 3

Inter-Group Correlations for Each Task Question

Task Question and Type of Average Value Used	Correlation Over All Listed Tasks
Question 1: Occurrence* (percent of workers checking task)	.94
Question 2: Occurrence* (percent of supervisors checking task)	.93
Question 3: Frequency (worker medians)	.59
Question 4: Frequency (supervisor medians)	.45
Question 6: Part of Job* (worker means)	.93
Question 7: Time to Qualify (supervisor medians)	.56
Question 8: Job Importance (worker means)	.50
Question 9: Job Importance (supervisor means)	.49
Question 10: Procedure Improvement (percent of supervisors checking task)	.59
Question 10: Training Content (percent of supervisors suggesting training)	.20
Question 11: Poorly Performed (percent of supervisors checking task)	.56
Question 11: Training Reason (percent of supervisors suggesting training)	.17
Question 12: School Location* (percent of workers suggesting school learning)	.82
Question 12: Job Location* (percent of workers suggesting on-job learning)	.80

Table 3-continued

Task Question and Type of Average Value Used	Correlation Over All Listed Tasks
Question 13: School Location (percent of supervisors suggesting school learning)	.45
Question 13: Job Location (percent of supervisors suggesting on-job learning)	.38

*Note that Questions 1, 2, 6, and 12 called for answers to be given for each listed task. The other questions did not, and averages were computed for each task only on the basis of persons actually responding.

Response consistency of another sort was also examined. This pertained to the relationship of this occupational survey to the results achieved in the earlier study of the data processing occupational area (Borcher & Joyner, 1973).

There were 345 data processing tasks that were completely identical in the two studies. The percent of workers checking tasks performed were compared between studies by use of product-moment correlations.

On these 345 tasks, Question 1 correlated .83 with comparable results on the earlier study. This would seem highly consistent, particularly since the first study obtained worker data from only one metropolitan area.

Question 6, Extent Task Is Part of the Position, also yields percentage values which can be compared with Question 1 and with the earlier study. Using the value of the percent of workers rating a task at a level of 4 ("substantial part of the job") or higher, Question 6 correlated .72 with the earlier study.

Thus, the occupational survey results on Task Occurrence appear to be reasonably stable and consistent between different sets of respondents. This result is in agreement with many studies on the methodology that have been conducted by the U.S. Air Force in their military job context. Group averages on survey data can provide reliable information, even though the responses of individual workers might be far more inconsistent.

On the matter of the extent to which each task question relates to other task questions, product-moment correlations were computed between various pairs of questions. These scale intercorrelations are cited in Table 4, with the caution to the reader that they permit only very tentative interpretations. Scales were not fully comparable in terms of their underlying dimensions, with percentages sometimes correlated with medians. Additionally, the correlations were computed across all 474 listed tasks, and many less relevant tasks entered into the figures. Thus, the correlations would tend to be minimum estimates of these interrelationships.

Table 4 shows the intercorrelations separately for the two halves of the survey data, excluding Questions 12 and 13 which did not lend themselves to comparisons with other scales. Stability of these relationships might be inferred by the extent to which these two subgroups of respondents produced nearly identical inter-scale correlations. It is apparent that Questions 1, 2, and 6 (Task Occurrence and Part of the Job) were all highly interrelated, but not completely so. Task Frequency (Questions 3 and 4), Time to Qualify (Question 7), and Job Importance

Table 4

Task Scale Interrelationships
(based on averages for all 474 tasks, using halved groups of respondents)

	Q2 %	Q3 Medians	Q4 Medians	Q6 Means	Q7 Medians	Q8 Means	Q9 Means	Q10 %	Poorly Performed (Q11%)
Task Occurrence (Q1%) and:									
1st half of workers	.84	.53	.30	.91	.41	.39	.47	.49	.32
2nd half of workers	.80	.56	.63	.89	.46	.57	.56	.46	.49
Task Occurrence (Q2%) and:									
1st half of supervisors		.46	.14	.86	.30	.48	.53	.66	.39
2nd half of supervisors		.47	.58	.86	.35	.57	.59	.63	.57
Frequency of Performance (Q3 Medians) and:									
1st half of workers			.49	.51	.38	.59	.30	.20	.17
2nd half of workers			.50	.49	.41	.78	.46	.25	.28
Frequency of Performance (Q4 Medians) and:									
1st half of supervisors				.26	.40	-.01	.06	-.10	-.01
2nd half of supervisors				.55	.45	.47	.48	.27	.33
Extent Task Is Part of Job (Q6 Means) and:									
1st half of workers					.37	.44	.52	.52	.32
2nd half of workers					.37	.59	.57	.54	.52

Table 4-continued

	Q2 %	Q3 Medians	Q4 Medians	Q6 Means	Q7 Medians	Q8 Means	Q9 Means	Q10 %	Poorly Performed (Q11%)
Time to Qualify (Q7 Medians) and:									
1st half of supervisors						.06	.40	.01	.10
2nd half of supervisors						.32	.58	.12	.16
Job Importance (Q8 Means) and:									
1st half of workers							.48	.40	.16
2nd half of workers							.54	.38	.32
Job Importance (Q9 Means) and:									
1st half of supervisors								.37	.18
2nd half of supervisors								.43	.29
Procedure Improvement (Q10%) and:									
1st half of supervisors									.41
2nd half of supervisors									.45

(Questions 8 and 9) were moderately related to several other scales, though the more important tasks did tend to be those performed more often by a worker and which have shorter time periods of job experience before supervisors expect competent performance. The percentages of supervisors checking tasks on Questions 10 and 11 were correlated positively with some other scales, but the meaningfulness of the relationships is uncertain. One half of the supervisor groups provided trivial or no relationship between either Question 4 or Question 7 and measures of Job Importance (Questions 8 and 9) and Problem Tasks (Questions 10 and 11). The other half of the supervisors did not support the lack of correlation with Job Importance, however. This may suggest that some moderate relationship may exist if larger numbers of respondents were used.

Where there were comparable task questions between workers and supervisors, there were mixed results. Questions 1 and 2 (Task Occurrence) showed considerable relationship between average answers of workers and supervisors. However, there was only a small to moderate relationship between Questions 3 and 4 (Frequency for Performance), and between Questions 8 and 9 (Job Importance). This might indicate that supervisors are not highly aware of what programmers actually do, or that the job assignments are sufficiently diverse (from one employers to the next) to inhibit concensus.

IMPLICATIONS OF FINDINGS

The tables of data in Appendix C provide a wealth of provocative information, depending on the needs and interests of the reader.

Worker-Supervisor Differences

Tables C-1, C-2, and C-4 contain a column showing the difference of average responses between workers and supervisors on questions of Task Occurrence, Job Importance, and Frequency of Performance. When there is a large discrepancy between the two groups, this suggests where there may be real differences in perceptions and expectations. Such differences warrant further examination to establish the reason for each deviation and its meaningfulness for curriculum purposes.

On Table C-1 it can be noted that there was a very large number of tasks (105) where the percentages of respondents checking the task differed by at least 20% between workers and supervisors. These were overwhelmingly indicative that supervisor expectations for the typical programmer were higher than

actual performance of individual programmers. Of these 105 tasks, 30 differed by as much as 30% and two of these (Tasks 99 and 106) differed by more than 40%. A full 60% of the discrepant tasks were ones that had been grouped within the four supervisory duties (A, B, C, and D). On about one-third of these tasks within Duties A-D there were also a large number of procedural improvement suggestions (Question 10) on the need for procedural handbooks or for improved training content.

In the opposite direction of response differences there were five instances (Tasks 182, 196, 197, 201, and 228; all within Duty F, "Operating ADP Equipment") where far more programmers did the task than there were supervisors saying it should be done (Questions 1-2 differences of 20% or greater). Only Duties F and I contained tasks on which more programmers noted performance than did supervisors by a percentage difference of 10% or more.

Table C-1 also lists the differences in responses to Question 1 and 6, where different groups of workers answered each question. These questions, however, are not directly comparable. It had been assumed that the "0" rating on Question 6 would be the same as not checking a task on Question 1. This turned out to be an oversimplified interpretation of the scale usage on Question 6. Apparently workers tended to use scale levels of 1, 2, and even 3 on Question 6 to anticipate tasks they might be called upon to perform.

There are 89 tasks on Table C-4, Frequency of Performance, for which a worker-supervisor difference in average rating was as large as 1.5 scale units or greater. All but 23 of these differences can be attributed to the fact that few ratings entered into their averages, since only 23 of these tasks are included in the Table 1 list of the more job-relevant tasks. Thus, caution in using task data must be exercised whenever there are very few workers or supervisors providing that data for a task.

In examining Table C-3, it can be noted that only one of these 23 job-relevant tasks (Task 367) was any substantive part of the occupational work, achieving a Question 6 rating greater than 1.5. Twelve of these 23 tasks were within Duty F, "Operating ADP Equipment." They tended to have supervisor expectations of more frequent performance than workers reported, such as daily expectations as opposed to monthly performance. This exemplifies a possible use by supervisors of the "daily" frequency to imply a task should be done "as necessary." In this instance, the apparent difference between workers and supervisors may not be a real difference in job perceptions. The remaining 11 tasks were in Duties G, I, and L, with eight being in Duty I, "Programming Computers." Discrepencies here were of a different nature, being typified by a supervisor tendency to rate these tasks as "normally not done, but might do them."

Only one job-relevant task exhibited a worker-supervisor difference of 1.0 scale units or greater on Questions 8 and 9, Job Importance. This was Task 227, "Select and mount disks," which supervisors rated as much more important than did workers. All other differences of at least 1.0 that are cited on Table C-2 can be attributed to instability of averages computed from too few respondents. That is, they occurred on tasks of least relevance to the occupation.

Minor deviations should be ignored. The margin of measurement error is such that the data can only indicate tendencies, not precise measures. However, when large numbers of respondents generally agree, and when group differences are reasonably large, these task data can be quite informative and meaningful.

Some Clues Regarding Need for Training

The data need further analysis and interpretation in order to be used effectively in resolving curriculum issues. The obvious first step would be to eliminate from further training consideration those tasks which are not of some minimal relevance to the occupation. This was done to produce the task listing in Table 1, using information on what proportion of workers do and should perform a task. While useful to reduce the size of the total list, the results may mask some issues that could have meaning for some purposes. Thus, Table 1 omits Tasks 96, 97, 99, and 121 because few workers do them, yet 40 to 50% of the supervisors said they should be done. These four tasks pertain to the evaluating and supervising of programming personnel.

Examination of the Appendix C data on the remaining tasks in Table 1 can provide a variety of clues as to whether or not each task warrants training. In some instances there may be unresolved differences and conflicts in the several data summaries. These raise questions of why are there such differences, and what do they imply for curriculum planning or other purposes? Additional attention then needs to be focused on these targeted issues, with perhaps some other information being necessary before such issues can be resolved. The advantage of the present data is that they may help focus and direct this attention.

Three tasks are used below to illustrate some of the clues that might be obtained from the data.

Task 389, "Recommend corrections of (sic) modifications to system," is rated as a highly relevant part of the job, performed fairly often by many workers and is important to the job. On examining Tables C-5 and C-6, however, the task is one that can take a relatively long time to learn on the job and neither workers nor supervisors suggest that the task should be learned primarily in school. In fact, both groups lean heavily on work experience as the basis for acquiring the task skill.

Two other common tasks are Tasks 298, "Analyze core dumps, evaluate and recommend solutions," and 318, "Debug programs." In both cases, the majority of workers and supervisors agree that the skills should be learned primarily in school prior to employment. Table C-7 indicates, however, that existing training on these matters may not be sufficiently effective. At least 30% of the supervisors on Question 10 indicated that improvement in procedures was needed for both tasks, with improvement of the content of formal training suggested as the appropriate means for accomplishing this change in work performance. This recommendation is supported for Task 298 by supervisors on Question 11, with 18% indicating that the task is poorly performed by Business Data Programmers primarily because of ineffective school training programs. Poor performance of Task 318 was also somewhat indicated, but criticism of existing school training was not nearly so intense as for Task 298.

For interpreting Questions 10 and 11 in Table C-7, it is usually meaningful to examine tasks where 10% or more of the supervisors mark them as problem areas. Since ratings on these two questions are not called for on every task a supervisor says is job relevant, when 10 or 20% of them do check a particular task it generally would be indicative of a problem area. It may or may not suggest a training concern, however. The methods or reasons suggested by supervisors need to be examined for clues of what is the nature of the problem. In doing this, it is useful to acknowledge that "training" is the typical suggestion of how to alleviate a problem. When alternative suggestions receive a proportionately high use, even though they are suggested by fewer supervisors than those suggesting training, these alternate suggestions are often quite meaningful and warrant attention.

Of the 313 tasks listed in Table 1, supervisor answers to Question 7 (Time to Qualify) indicate that they expect workers to be able to competently perform only about half of them within the first six months or so on the job. There are but 34 of the tasks that are expected to be well performed by the first month or so. Early competency is particularly expected for tasks in Duty F, and somewhat for Duty I (Operating ADP Equipment and Programming Computers). Periods of time of a year or more on the job appear available before competent performance is expected for nearly half the relevant tasks (143 of 313), distributed across all duties of the task listing. Precise indications of task ratings on Question 7 are contained in Table 5 of Appendix C.

Of the tasks cited in Table 1, formal training programs were definitely recommended by programmers for 100 tasks and by supervisors for 118 tasks, using the basis that 50% or more of each group suggesting a learning location did cite school training in Questions 12 and 13. Of these, programmers and supervisors both recommended training for 83 of the tasks. These

were predominantly in Duties F and I, where there was agreement on 24 ADP equipment operating tasks and on 40 computer programming activities, with supervisors emphasizing an additional 21 programming activities. Refer to Table 6 in Appendix C for specific ratings of task learning locations.

Clues about Problem Areas

Questions 10 and 11 allowed supervisors to pinpoint potentially faulty areas of training and performance. Their suggestions warrant further exploration, of course, but they did seem to indicate that at least 15 tasks (of those cited as reasonably relevant in Table 1) could benefit by the development of procedural handbooks or other job guides:

Task 8.	Conduct on-the-job training for data services personnel.
Task 11.	Establish data services production controls and standards.
Task 15.	Orient newly assigned data services personnel.
Task 42.	Develop computer operating instructions.
Task 49.	Maintain operating manuals and directives affecting machine room functions.
Task 79.	Conduct on-the-job training in programming.
Task 85.	Coordinate with operations on preparation of computer operating instructions.
Task 86.	Coordinate with systems designers on programming aspects of new systems.
Task 106.	Orient newly assigned programmers.
Task 115.	Review completed programs for accuracy.
Task 128.	Document new computer processes.
Task 268.	Optimize program execution times.
Task 296.	Analyze applications to select appropriate utility programs and subroutines.
Task 299.	Analyze programming documentation.
Task 302.	Audit computer inputs after test run and follow-up.

Research or other special study appears useful for 11 tasks:

Task 14.	Inspect methods used to process data.
Task 78.	Analyze programs evaluations, reviews or reports for problem identification.
Task 174.	Analyze job steps to determine data recovery points.
Task 268.	Optimize program execution times.
Task 341.	Edit computer programs for effective use of auxiliary storage media.
Task 342.	Edit computer programs for efficient use of logical and arithmetical components.

Task 343. Edit computer programs for effective use of memory.
Task 345. Evaluate programs for cost-effectiveness.
Task 370. Perform systems analysis to meet requirements of company functions.
Task 390. Review existing routines for applicability of new techniques.
Task 413. Evaluate present and proposed costs of input/output requirements.

And, managers might be especially aware of attitudinal problems interfering with the desired performance of 13 tasks:

Task 4. Analyze documentation for completeness and accuracy for data processing operations and control.
Task 42. Develop computer operating instructions.
Task 104. Maintain instruction worksheets for operational programs.
Task 115. Review completed programs for accuracy.
Task 116. Review detail flow charts prior to preparation of programs.
Task 120. Supervise and edit documentation of programs.
Task 268. Optimize program execution times.
Task 299. Analyze programming documentation.
Task 331. Desk check programming logic for punching errors prior to assembly or compilation.
Task 356. Maintain and update library of program and processing documentation.
Task 374. Prepare detail flow charts.
Task 375. Prepare documentation including formats and layouts for input and output media.
Task 376. Prepare general and detailed flow charts.

Question 10 identifies 170 tasks (of those cited as reasonably relevant in Table 1) on which 10% or more of the supervisors indicated a possibility of improving task procedures. Considering only the 43 of those tasks which were noted by 20% or more of the supervisors, along with principal methods suggested for their improvement, these tasks were:

1. Provide a handbook or other job guide for 10 tasks (8, 15, 42, 79, 85, 106, 115, 128, 268, 299).

2. Improve directives for one task (85).

3. Improve training content for 30 tasks (2, 4, 65, 77, 90, 91, 101, 102, 106, 108, 174, 298, 318, 319, 321, 326, 343, 345, 354, 366, 370, 375, 394, 396, 397, 400, 402, 431, 433, 438).

4. Provide research or special study for nine tasks (14, 78, 174, 268, 341, 343, 345, 370, 390).

Question 11 identifies 68 tasks (of those cited in Table 1) on which 10% or more of the supervisors indicated that, for many workers, performance was generally poor. Again considering only the 19 of these tasks which were noted by 20% or more of the supervisors, the prime reasons suggested for such unsatisfactory performance were:

1. Due to lack of interest or poor attitude for 11 tasks (4, 104, 116, 120, 268, 299, 331, 356, 374, 375, 376).

2. Due to ineffective training programs for four tasks (101, 128, 268, 469).

3. Due to programmers having more important matters to do for five tasks (2, 65, 374, 375, 380).

4. Due to two tasks being extremely difficult to master (1, 343).

Supervisor Suggestions for Improving Performance

Supervisors were generous with their comments. Such information is quite valuable for interpreting responses to some of the task statements. In instances where the task questionnaires asked raters for their comments and suggestions on specific items, a number of supervisors did provide such comments. These are listed below, with the caution that they are comments given by individual supervisors. These comments are not necessarily representative of the entire occupation, but they may provide useful clues to management and training personnel for planning efforts to improve worker effectiveness and performance.

Suggestions of ways to improve task procedures, other than the standard means listed on the Question 10 answer sheet, were as follows:

Task 3 - Hold periodic review sessions with users.

Task 4 - Hold periodic review sessions with operators.

Task 82 - Training should cover at least an introduction of all major vendors' hardware.

Tasks 83, 84 - Better communication with user.

Tasks 86, 87 - More participation in initial system design.

Task 143 - Provide better program controls and operational documentation.

Task 171 - Organize on a priority basis.

Task 196 - Eliminate requirements by better keypunch support.

Tasks 211, 212, 213 - Use report generator type programs.

Task 236 - Provide scheduled maintenance.

Task 255 - Utilize report generator type program.

Tasks 268, 343 - Develop programs to analyze program efficiencies.

Task 366 - In some respects this function is an aptitude for which normal training can not substitute for actual practice and application; recommendation: practice and apply ever more increasing levels of difficulty and varieties of programming.

Tasks 367, 370, 371, 386, 387 - These are other areas where in some respects aptitude is critical; training can improve performance only as it is applied and practiced.

Task 403 - Organize on a priority basis. Use report generator type programs.

One supervisor provided a general comment on means for improving task procedures:

> I experienced great difficulty with (Question 10) because it represents the crux of the major problem confronting data processing management today--namely: "How do we improve our existing procedures" such that the professional technician can become more productive? There are countless numbers of handbooks, directives, training courses, and research studies which address these procedural problems in every data processing shop--and all work, with varying degrees of success.
>
> At such time as the technology permits, the computer must become the tool which the industry will use to solve the problem. The computer system will have to be available on a demand basis to any internal user for: program development, system design, text storage and retrieval, historical profiles of system incidents, etc. For now we . . . (must) wait for program compilations, test results, typing turn around, information retrieval from manual filing systems--and spending a disproportionate amount of time deciding which publication contains the answer we need immediately.

Question 11 asked supervisors for reasons why certain tasks were generally performed poorly. In addition to the use of standard answer categories, the following reasons were written in by some of the responding supervisors:

Tasks 42, 59, 61 - Difficulty in identifying with problems of operations staff.

Tasks 83, 84 - Difficulty in communicating with functional areas in non-technical language.

Tasks 86, 87 - Superior attitude sometimes displayed by the analyst toward the programmer makes it very difficult.

Task 90 - Management's lack of interest in purchasing programming aids for programmers to make job more efficient.

Task 120 - Need more automated methods used in documenting systems, to release the programmer or analyst for more important systems work.

Task 120, and 124 through 128 - Documentation is considered "grunt" work, hard to discipline self to complete, etc.

Task 128 - For 99% of all programmers this task represents the most undesirable activity, especially if done after programming; it is basically a problem of attitude, but since it is so widespread, it could stem from both schooling and experience.

Task 196 - Do not need to be proficient in this task.

Tasks 221, 222 - Considered a function of operations, not programming.

Task 226 - More concerned with the next assignment than with providing a high quality product.

Task 229 - Don't take the trouble to become familiar with already existing subroutines, so they write their own.

Task 254 - Usually experienced with only one system, must learn characteristics of other system as part of conversion process.

Task 331 - Most programmers let the system diagnostics check this out for them.

TIQ Errata and Comments

Programmers and their supervisors were particularly critical of the length of the questionnaire, the apparent lack of clarity with which some of the tasks were stated, and the listing of duplicate task statements in the questionnaire.

Eight tasks were duplicated in the listing of 474 tasks. This was unintentional, in that the study was not seeking to check the reliability of the ratings on comparable items. The thought had been that the tasks were in fact different tasks when associated with different duty categories. But the raters did not seem to view them as we had intended. Task statements should be meaningful alone, without the context of a duty category being needed to clarify the task activity. Tasks involved in this apparent duplication were:

Task 7 in Duty A was repeated as Task 34 in Duty B.
Task 13 in Duty A seemed similar to Task 48 in Duty B.
Task 39 in Duty B was repeated as Task 155 in Duty E.
Task 42 in Duty B was repeated as Task 334 in Duty I.
Tasks 53 and 54 in Duty B were sufficiently alike to cause some rater confusion.
Task 65 in Duty B was repeated as Task 115 in Duty C.
Task 101 in Duty C was repeated as Task 466 in Duty L.
Task 172 in Duty E was repeated as Task 388 in Duty I.

Raters also pointed out the need to define some of the terms used in task statements. Some of them felt that item clarity would be improved if the following terms had been defined: functional area (Task 5), production controls (Task 11), data services specialist (Task 30), coordinate errors (Task 36), illustrator (Task 73), error print-outs (Task 80), and mechanized listing (Task 426). Others that seemed to warrant some greater clarity were Tasks 9, 33, 53, 54, 144, 302, 314, 316, 335, 353, 363, and 369. Task 235 was noted as containing jargon not in general use.

Actual typographical errors occurred on six task statements. Task 13 should read, "Fill out questionnaire inventory forms." Task 41 should read, "Design system of magnetic tape management." Task 113 should read, "Read and interpret regulations, manuals, or administrative orders." Task 267 should read, "Minimize program size." Task 330 should read, "Desk check or debug programs after assembly or compilation." Task 389 should read, "Recommend corrections or modifications to systems."

One additional kind of error occurred on the Answer Sheets of the TIQ for Question 11. For 10 of the supervisors in Group 2 the answer booklet was compiled with one page missing. This page covered task items 408 through 448. Thus, positive responses given to those items and reported in Table 7 of Appendix C can be from a maximum of 30 supervisors, not the 40 that

were intended by the design of the study. However, percentages used for summarizing these items on Question 11 continued to assume a full complement of respondents.

Individual raters suggested statement modifications. One suggested that "method" in Task 77 should be "procedures." Another felt that the action in Task 101 should include correction as well as identification of problem areas, though the corrective action may warrant a second task statement. In Tasks 307, 311, and 329 a rater suggested changing the term "programs" to read "utilities."

These suggestions and potential item modifications may be useful considerations in any future applications of this task inventory. Interpretations of the specific task ratings also may be influenced by consideration of which items were too vague or duplicative to yield accurate responses on the task questions. On the other hand, the number of such items noted out of a total listing of 474 tasks was not highly disproportionate. There remain a great number of tasks, with associated task data, in which a reasonable amount of confidence can be placed.

USE OF THE DATA

From the experiences of the Cornell University surveys of ornamental horticulture jobs, it would appear that several types of user groups would be interested in task data (Berkey, 1975):

1. One group would be comprised of persons writing or updating curriculums for training programs to prepare students for initial employment in an occupation. This group needs a list of job tasks for which training is relevant, and information for use in identifying priorities of training need. A subset of this group would be those persons who also have responsibility for continuing education programs at the post-secondary level. For them, the total range of tasks performed in an occupation would be important, as well as identification of those tasks generally needing improved performance.

2. A second user group are those persons who may also belong to the first group, but who conduct local occupational surveys as needed for their individual training programs. This group might well extract important survey information and take it to their advisory committee to verify local needs. Data more representative of performance requirements nation- and industry-wide could be compared with local results to assure that students are prepared for a wide scope of employment opportunities. To begin conducting their own local

surveys, the existing task lists provide a starting point for development of their own lists which may include greater attention to local practices.

3. A third group is composed of research-oriented curriculum development personnel who are interested in developing new or improved procedures for analyzing the requirements of performance situations. For this group, a description of survey results can be used to compare with results from alternative procedures or surveys.

4. A fourth group consists of prospective workers in the occupation surveyed, and of the guidance counselors serving their needs. The identification of what work actually is being performed by workers may be an important source of information describing an occupation at a given point in time. One item of useful information might be data on how often a task is performed by a worker, though tasks frequently performed are not necessarily the critical tasks of the job.

One additional user group for occupational survey data is that of professional and labor associations. They are becoming increasingly concerned with activities to assure that unemployment, underemployment, and obsolescence among their members do not occur. Workshops and newsletters communicate information for skill development and upgrading.

An excellent example of such an effort by a professional association is the recent study conducted for the Professional Certification Committee of the American Federation of Information Processing Societies (Berger, 1974). Questionnaire returns from 684 programmers, representing 60 computer organizations across the country, provided importance ratings for the tasks and skills as usually performed for present job positions. An additional 23 programming experts produced importance ratings that reflected a concensus of ideal performance expectations for the tasks and skills. Extensive analyses of the data were based on a wide array of background characteristics of the survey participants. These analyses are a very fine example of what can be done with task inventory data to provide descriptions of task value for different types of workers.

The report of the AFIPS study also includes a good discussion of twelve different kinds of practical applications and possible uses of the resultant job descriptions. Charted and described in the report is an indication of the types of job description most useful for each kind of application: universal, ideal, as-practiced, specific job focus, and organizational. The latter two are special purpose job descriptions focusing on a particular

job within an occupational field or on a particular local organization. The "ideal" description is produced from ratings by job supervisors or other experts, whereas the "as-practiced" description is based on workers' ratings. A composite of the ideal and as-practiced descriptions yields what is termed a "universal" job description. The present study of Business Data Programmers contains elements usable for each of these types of job descriptions, except for the organizational type. Summarizing task data on variables other than "job importance," the present report should serve as a useful complement to the AFIPS report.

Curriculum developers who plan training programs in schools and colleges offering specialized programs for potential programmers may be interested in the importance or relevance of a job task to the programmer of a particular type of business enterprise. For example, some instruction may intend to train programmers for employment in data processing service bureaus, or in a manufacturing or a sales organization. The present survey data, however, do not indicate the significance of tasks for a single type of industry or enterprise. Rather, it is a composite cross-section of employment situations. The study would need to be repeated, using workers and supervisors from a particular type of industry (comparable to the "organizational" description as defined by Berger, 1974), to obtain meaningful information based only on that industry. This could, of course, be done; and, if a description were available to represent a second industry, it would be most appropriate to compare results and note differences according to the type of industry involved.

In making use of the programmer task data, there are several misconceptions to be avoided and cautions to be observed when interpreting this information. The data report a picture of the occupation as it existed at the time of the survey, but the occupation is undergoing change and new surveys would be warranted to detect trends and determine task relevancy at different points in the future. Not all tasks in the total list are relevant to the job of Business Data Programmers, nor are all job-relevant tasks appropriate for any one specific programmer. These tasks vary in the degree to which they are job relevant, being performed by differing proportions of programmers and each having its own level of value to the occupational assignment.

Additionally, the learning of a task is not an all-or-none proposition. For many tasks the learning process may only begin in pre-employment schooling, with job experiences and company training programs serving to extend and complete that learning. Some tasks may not even warrant the attainment of full proficiency, with minimum capability being all that the job requires of a worker. Nor does job importance directly imply

training importance for a task. Thus, despite a task's ratings of frequency, importance, significance, problems, and suggested learning locations, decisions by curriculum planners are still required on what and how much training is appropriate. These decisions, however, should be possible with reasonably assured accuracy and certainty when the planner can refer to an informed source of what work is currently done by workers in an occupation. The present report is intended to be of service in providing one such data base.

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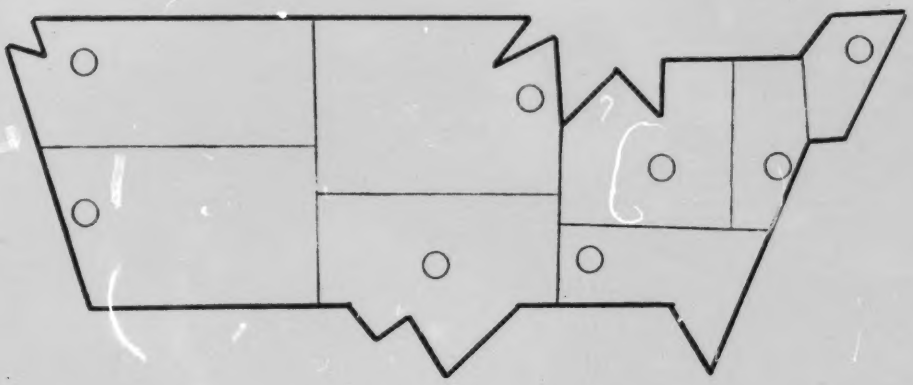
APPENDIX A

PARTICIPATING STATE AGENCIES AND THEIR KEY SUPPORTING PERSONNEL

DATA-GATHERING LOCATIONS FOR THE

1974 TASK INVENTORY QUESTIONNAIRES

Washington	Wisconsin	Ohio	New Hampshire
California	Oklahoma	Mississippi	New Jersey



Network of state curriculum laboratories, research centers, and vocational agencies participating in the early 1974 administration of Task Inventory Questionnaires to workers and supervisors:

California

Vocational-Technical Education Curriculum Laboratory,
California State Department of Education

Patrick J. Weagraff, Director

Mississippi

Research and Curriculum Unit for Vocational-Technical Education,
Mississippi State Division of Vocational and Technical Education and Mississippi State University (cooperating)

James E. Wall, Associate Dean (R&D) and R/CU Director
James F. Shill, R/CU Co-Director

New Hampshire

Division of Vocational-Technical Education,
New Hampshire State Department of Education

Gloria Cooper, Director, Research Coordinating Unit
Deborah L. Bloxom, Associate Education Consultant
Richard L. Barker, Director, Professional Development

New Jersey

New Jersey Vocational-Technical Curriculum Laboratory,
Bureau of Occupational Research Development, New Jersey State Division of Vocational Education

Joseph F. Kelly, Director

Ohio

Instructional Materials Laboratory,
The Ohio State University, Trade and Industrial Education Services

Tom L. Hindes, Director

Oklahoma

Division of Research, Planning and Evaluation,
Oklahoma State Department of Vocational and Technical Education

William W. Stevenson, Director
Fern A. Green, Planning Unit Coordinator
Larry D. Johnson, Research Assistant
Ronald Meek, Coordinator, Curriculum and Instructional Materials Center

Washington

Curriculum Management Center,
Washington State Coordinating Council for Occupational Education

James L. Blue, Director

(with) Ross Byrd, Associate Professor
Department of Business Education and Administrative Management,
Central Washington State College

Wisconsin

Instructional Services,
Wisconsin Board of Vocational, Technical, and Adult Education

Clifford Zenor, Consultant

(with) Griff Dye, Consultant
Center for Vocational-Technical Education Studies,
University of Wisconsin-Madison

APPENDIX B

BACKGROUND CHARACTERISTICS OF RESPONDENTS

Appendix B contains background characteristics of the people answering the questionnaire. The source of the data for Tables 1-4 in this appendix was the Background Information page of the Task Inventory Questionnaires, while Table B-5 incorporates data reported by the agencies administering those questionnaires. Job, business, and training labels given in Tables 1-3 were options listed on each Background Information sheet, along with an option for noting other labels. Respondents were to check only one option. Multiple responses to a question were recorded as unknown, which commonly occurred in the citation of training sources.

Table	Description
B-1	Job Title
B-2	Type of Business
B-3	Source of Training
B-4	Years of Experience
B-5	Location Contexts

Table B-1

Job Title

Worker Titles	N	Percent
Business Data Programmer, or Senior Programmer	52	43.3
Chief Business Programmer, or Lead Programmer	4	3.3
Computer Programming Coordinator	0	0
Systems and Procedures Analyst	11	9.2
Systems Programmer	18	15.0
Computer Console Operator	0	0
Junior Programmer or Program Coder	5	4.2
Data Converting Operator	0	0
Scientific Data Programmer	3	2.5
Automation Process Programmer	0	0
Other	20	16.7
Unknown	7	5.8
TOTALS	120	100.0

Supervisor Titles	N	Percent
Data Processing Manager	25	31.2
Computer Operations Manager or Supervisor	7	8.8
Electronic Data Processing (EDP) Manager	1	1.2
Computer Programming Coodinator	6	7.5
Senior Business Programmer	6	7.5
Chief Business Programmer or Lead Programmer	4	5.0
Other	29	36.2
Unknown	2	2.5
TOTALS	80	100.0

Table B-2

Type of Business

Business Types	Workers N	Workers Percent	Supervisors N	Supervisors Percent
Agriculture	2	1.7	1	1.2
Banking and Finance	14	11.7	8	10.0
Communications	0	0	0	0
Construction	1	.8	2	2.5
Education	22	18.3	17	21.2
Equipment Servicing	0	0	0	0
Federal Agency	5	4.2	2	2.5
Food Processing	0	0	0	0
Health Services	1	.8	0	0
Insurance	3	2.5	0	0
Legal Services	0	0	0	0
Manufacturing	16	13.3	16	20.0
Merchandising and Sales	4	3.3	1	1.2
Natural Resources (other than Agriculture)	0	0	0	0
Non-Federal Government (other than Education)	34	28.3	18	22.5
Research	1	.8	2	2.5
Transportation	1	.8	1	1.2
Utility (energy, water, fuel)	3	2.5	2	2.5
Other	9	7.5	9	11.2
Unknown	4	3.3	1	1.2
TOTALS	120	100.0	80	100.0

Table B-3

Source of Training

Training Sources	N	Percent
Public High School	0	0
Technical Institute or College	15	12.5
Manpower Development Program (MDTA)	1	.8
Adult Education Program (other than MDTA)	0	0
Armed Services Technical School	1	.8
Private Business, Trade, or Technical School	16	13.3
Community or Junior College	5	4.2
Senior College or University	9	7.5
Correspondence Courses	0	0
Employer Training Program	22	18.3
Equipment Manufacturer's Training Program	5	4.2
Formal Apprenticeship Program	0	0
Previous Work Experience in other types of jobs	3	2.5
On the Job (Self-Learned)	31	25.8
Other	0	0
Unknown	12	10.0
TOTALS	120	100.0

Table B-4

Years of Experience

Business Data Programmers	N[a]	Mean No. of Years	SD	Range of Years Least	Most
Worked at Present Job	112	3.04	2.37	0	12
Worked in Computer Programming Field	115	5.39	4.53	1	35

[a]Number of programmers providing usable responses.

Table B-5

Location Contexts[a]

Type of Business Operation	Workers	Supervisors
Data Processing Service Bureau	7	4
University Computer Service	13	8
Business Firm, with Supportive Computer Operation	28	16
Education	6	6
City/County Government	3	3
State Service	4	1
Other	3	2
Unknown	56	40
Size of Business		
Small	8	3
Moderate	14	7
Large	17	12
Unknown	81	58
City Size		
Metropolitan	57	34
Moderate/Remote	21	12
Unknown	42	34

[a]Data provided by supporting state agencies for 120 workers (programmers) and 80 supervisors.

APPENDIX C

TASK INVENTORY DATA

Appendix C contains a detailed presentation of the task inventory data in computer printout form. Each table is preceded by a description of the questions and response categories that are reported on that table.

Table	Description
C-1	Task Occurrence (Q1, Q2, and Q6)
C-2	Task Importance (Q8 and Q9)
C-3	Extent Task Is Part of the Job (Q6)
C-4	Frequency of Task Performance (Q3 and Q4)
C-5	Time to Qualify (Q7)
C-6	Learning Location (Q12 and Q13)
C-7	Supervisor Suggestions (Q10 and Q11)
C-8	Summary of Tasks by Percent of Workers Performing
C-9	Summary of Tasks by Percent of Supervisors Desiring Performance

Table C-1

Task Occurrence (Q1, Q2, and Q6)[a]

Question 1: Task Occurrence (Workers)

During the last year or so in your present job position as a Business Data Programmer, which of the activities have you performed?

Response: Check mark for each task performed.

Question 2: Task Occurrence (Supervisors)

From your experience as a supervisor of one or more Business Data Programmers, indicate which of the activities should be performed by Business Data Programmers in your operation; that is, by such employees under your supervision in your office or firm. Indicate which tasks your Business Data Programmers should be doing as part of their job, even if only done once.

Response: Check mark for each task that programmers are expected to do.

Question 6: Extent Task Is Part of the Position (Workers)

Answer this question so as to give the best description you can. For each task statement, rate how significant a part of your job it is. Consider and weigh its importance, frequency of occurrence, relevance, and any other factor which you think determines to what extent the task is part of your position. In your own mind, combine these factors into a single rating of how significant a part of your job it represents.

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[a]In Table C-1, positive (checked) responses are reported for Q1 and Q2. A composite response composed of any selection of scale ratings 1 through 7 is reported for Q6. The results indicate that Q6 is a more sensitive measure of minor tasks than the checklist used in Q1 and Q2. Because the group of workers responding to Q6 rated each task, the data provided by Q6 appear to include those they might do on some remote occasion.

Table C-1-continued

Question 6 (continued)

Categories and Values of the Response Scale:

0 = Definitely not a part of my job
1 = Under unusual circumstances may be a minor part of my job
2 = (not defined)
3 = (not defined)
4 = A substantial part of my job
5 = (not defined)
6 = (not defined)
7 = A most significant part of my job

Each of the 10 columns of Table C-1 is identified below.

Column 1: Number of Group 1 workers who checked (Question 1) that the task is performed.

Column 2: Percent of Group 1 workers checking the task (Question 1).

Column 3: Number of Group 2 workers who rated the task as being some part of the job (Question 6).

Column 4: Percent of Group 2 workers rating the task 1-7 (Question 6).

Columns 5 and 6: Composite of Column 1-4 data.

Column 7: Difference between worker groups responding to the task (Column 2 minus Column 4).

Column 8: Number of combined Groups 1 and 2 supervisors who checked (Question 2) that the task should be performed by programmers.

Column 9: Percent of all supervisors checking the task (Question 2).

Column 10: Difference between workers and supervisors responding to the task (Column 2 minus Column 9).

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 1: TASK OCCURRENCE

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
1	7	11.7	28	46.7	35	29.2	-35.0	26	32.5	-20.8
2	35	58.3	52	86.7	87	72.5	-28.3	55	68.8	-10.4
3	41	68.3	53	88.3	94	78.3	-20.0	58	72.5	-4.2
4	39	65.0	51	85.0	90	75.0	-20.0	61	7[illegible].3	-11.3
5	23	38.3	42	70.0	65	54.2	-31.7	43	53.8	-15.4
6	21	35.0	42	70.0	63	52.5	-35.0	27	33.8	1.3
7	26	43.3	46	76.7	72	60.0	-33.3	47	58.8	-15.4
8	15	25.0	36	60.0	51	42.5	-35.0	43	5[illegible].8	-28.8
9	16	26.7	39	65.0	55	45.8	-38.3	31	38.8	-12.1
10	5	8.3	[illegible]	43.3	31	25.8	-35.0	25	31.3	-22.9
11	12	20.0	27	45.0	39	32.5	-25.0	30	37.5	-17.5
12	2	3.3	11	18.3	13	10.8	-15.0	25	31.3	-27.9
13	4	6.7	16	26.7	20	16.7	-20.0	15	18.8	-12.1
14	21	35.0	40	67.8	61	51.3	-32.8	42	52.5	-17.5
15	13	21.7	34	56.7	47	39.2	-35.0	42	52.5	-30.8
16	1	1.7	5	8.3	6	5.0	-6.7	9	11.3	-9.6
17	3	5.0	15	25.0	18	15.0	-20.0	17	21.3	-16.3
18	3	5.0	16	27.1	19	16.0	-22.1	19	23.8	-18.[illegible]
19	14	23.3	34	56.7	48	40.0	-33.3	38	47.5	-24.2
20	14	23.3	30	50.0	44	36.7	-26.7	33	41.3	-17.9
21	0	0.0	7	11.7	7	5.8	-11.7	18	22.5	-22.5
22	0	0.0	6	10.0	6	5.0	-10.0	14	17.5	-17.5
23	9	15.0	18	30.0	27	22.5	-15.0	21	26.3	-11.3
24	1	1.7	7	11.9	8	6.7	-10.2	18	22.5	-20.8
25	0	0.0	6	10.2	6	5.0	-10.2	17	21.3	-21.3
26	22	36.7	38	63.3	60	50.0	-26.7	34	42.5	-5.8
27	25	41.7	40	66.7	65	54.2	-25.0	44	55.0	-13.3
28	12	20.0	33	55.0	45	37.5	-35.0	19	23.8	-3.8
29	1	1.7	22	36.7	23	19.2	-35.0	24	30.0	-28.3
30	1	1.7	5	8.3	6	5.0	-6.7	19	23.8	-22.1

TASK	PERFORMED BY WORKERS: Q1(+) N	Q1(+) %	Q6(1-7) N	Q6(1-7) %	Q1+Q6 N	Q1+Q6 %	D:Q1-Q6 %	DESIRED BY ALL SUPERVISORS: Q2(+) N	Q2(+) %	D:Q1-Q2 %
31	12	20.0	27	45.0	39	32.5	-25.0	24	30.0	-10.0
32	1	1.7	7	11.7	8	6.7	-10.0	12	15.0	-13.3
33	1	1.7	7	11.7	8	6.7	-10.0	12	15.0	-13.3
34	10	16.7	21	35.0	31	25.8	-18.3	25	31.3	-14.6
35	3	5.0	13	21.7	16	13.3	-16.7	13	16.3	-11.3
36	15	25.0	38	63.3	53	44.2	-38.3	46	57.5	-32.5
37	16	26.7	40	66.7	56	46.7	-40.0	51	63.8	-37.1
38	4	6.7	14	23.3	18	15.0	-16.7	20	25.0	-18.3
39	19	31.7	36	60.0	55	45.8	-28.3	39	48.8	-17.1
40	1	1.7	11	18.3	12	10.0	-16.7	20	25.0	-23.3
41	2	3.3	12	20.0	14	11.7	-16.7	16	20.0	-16.7
42	26	43.3	35	58.3	61	50.8	-15.0	51	63.8	-20.4
43	11	18.3	17	28.3	28	23.3	-10.0	21	26.3	-7.9
44	0	0.0	4	6.7	4	3.3	-6.7	8	10.0	-10.0
45	7	11.7	23	38.3	30	25.0	-26.7	25	31.3	-19.6
46	1	1.7	4	6.7	5	4.2	-5.0	15	18.8	-17.1
47	20	33.3	39	65.0	59	49.2	-31.7	39	48.8	-15.4
48	0	0.0	3	5.0	3	2.5	-5.0	10	12.5	-12.5
49	6	10.0	17	28.3	23	19.2	-18.3	24	30.0	-20.0
50	1	1.7	3	5.0	4	3.3	-3.3	3	3.8	-2.1
51	2	3.3	9	15.0	11	9.2	-11.7	11	13.8	-10.4
52	1	1.7	8	13.3	9	7.5	-11.7	14	17.5	-15.8
53	3	5.0	11	18.3	14	11.7	-13.3	19	23.8	-18.8
54	6	10.0	17	28.3	23	19.2	-18.3	23	28.8	-18.8
55	5	8.3	11	18.3	16	13.3	-10.0	16	20.0	-11.7
56	3	5.0	3	5.0	6	5.0	0.0	11	13.8	-8.8
57	0	0.0	4	6.7	4	3.3	-6.7	14	17.5	-17.5
58	2	3.3	10	16.7	12	10.0	-13.3	18	22.5	-19.2
59	22	36.7	34	57.6	56	47.1	-21.0	44	55.0	-18.3
60	6	10.0	18	30.0	24	20.0	-20.0	30	37.5	-27.5
61	15	25.0	37	61.7	52	43.3	-36.7	39	48.8	-23.8
62	1	1.7	1	1.7	2	1.7	0.0	5	6.3	-4.6
63	0	0.0	2	3.3	2	1.7	-3.3	11	13.8	-13.8
64	3	5.0	6	10.0	9	7.5	-5.0	14	17.5	-12.5
65	31	51.7	48	80.0	79	65.8	-28.3	52	65.0	-13.3

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
66	1	1.7	7	11.7	8	6.7	-10.0	16	20.0	-18.3
67	0	0.0	2	3.3	2	1.7	-3.3	20	25.0	-25.0
68	10	16.7	34	56.7	44	36.7	-40.0	24	30.0	-13.3
69	4	6.7	16	26.7	20	16.7	-20.0	12	15.0	-8.3
70	2	3.3	2	3.3	4	3.3	0.0	7	8.8	-5.4
71	0	0.0	5	8.3	5	4.2	-8.3	11	13.8	-13.8
72	3	5.0	4	6.7	7	5.8	-1.7	11	13.8	-8.8
73	1	1.7	6	10.0	7	5.8	-8.3	8	10.0	-8.3
74	4	6.7	3	5.0	7	5.8	1.7	11	13.8	-7.1
75	0	0.0	0	0.0	0	0.0	0.0	8	10.0	-10.0
76	0	0.0	3	5.1	3	2.5	-5.1	3	3.8	-3.8
77	14	23.3	36	61.0	50	42.0	-37.7	32	40.0	-16.7
78	22	36.7	41	68.3	63	52.5	-31.7	48	60.0	-23.3
79	19	31.7	34	56.7	53	44.2	-25.0	54	67.5	-35.8
80	13	21.7	33	56.9	46	39.0	-35.2	32	40.0	-18.3
81	37	61.7	46	78.0	83	69.7	-16.3	54	67.5	-5.8
82	30	50.0	47	78.3	77	64.2	-28.3	61	76.3	-26.3
83	27	45.0	44	73.3	71	59.2	-28.3	59	73.8	-28.8
84	31	51.7	46	76.7	77	64.2	-25.0	63	78.8	-27.1
85	27	45.0	45	75.0	72	60.0	-30.0	63	78.8	-33.8
86	30	50.0	43	72.9	73	61.3	-22.9	69	86.3	-36.3
87	32	53.3	45	76.3	77	64.7	-22.9	65	81.3	-27.9
88	7	11.7	24	40.7	31	26.1	-29.0	17	21.3	-9.6
89	13	21.7	27	45.0	40	33.3	-23.3	40	50.0	-28.3
90	14	23.3	34	56.7	48	40.0	-33.3	44	55.0	-31.7
91	10	16.7	35	58.3	45	37.5	-41.7	45	56.3	-39.6
92	14	23.3	28	46.7	42	35.0	-23.3	32	40.0	-16.7
93	24	40.0	36	60.0	60	50.0	-20.0	38	47.5	-7.5
94	7	11.7	31	51.7	38	31.7	-40.0	26	32.5	-20.8
95	3	5.0	8	13.3	11	9.2	-8.3	23	28.8	-23.8
96	2	3.3	14	23.3	16	13.3	-20.0	33	41.3	-37.9
97	2	3.3	16	26.7	18	15.0	-23.3	34	42.5	-39.2
98	1	1.7	10	16.7	11	9.2	-15.0	9	11.3	-9.6
99	3	5.0	12	20.0	15	12.5	-15.0	40	50.0	-45.0
100	11	18.3	34	57.6	45	37.8	-39.3	38	47.5	-29.2

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
101	33	55.0	47	78.3	80	66.7	-23.3	65	81.3	-26.3
102	26	43.3	50	83.3	76	63.3	-40.0	51	63.8	-20.4
103	0	0.0	16	26.7	16	13.3	-26.7	17	21.3	-21.3
104	20	33.3	34	57.6	54	45.4	-24.3	46	57.5	-24.2
105	14	23.3	27	45.0	41	34.2	-21.7	43	53.8	-30.4
106	15	25.0	37	61.7	52	43.3	-36.7	59	73.8	-48.8
107	16	26.7	33	55.0	49	40.8	-28.3	37	46.3	-19.6
108	29	48.3	51	85.0	80	66.7	-36.7	61	76.3	-27.9
109	4	6.7	20	33.3	24	20.0	-26.7	27	33.8	-27.1
110	17	28.3	24	40.0	41	34.2	-11.7	28	35.0	-6.7
111	9	15.0	27	45.0	36	30.0	-30.0	31	38.8	-23.8
112	21	35.0	34	56.7	55	45.8	-21.7	44	55.0	-20.0
113	18	30.0	29	48.3	47	39.2	-18.3	38	47.5	-17.5
114	6	10.0	14	23.3	20	16.7	-13.3	25	31.3	-21.3
115	35	58.3	51	85.0	86	71.7	-26.7	59	73.8	-15.4
116	24	40.0	39	65.0	63	52.5	-25.0	54	67.5	-27.5
117	20	33.3	38	63.3	58	48.3	-30.0	45	56.3	-22.9
118	3	5.0	12	20.0	15	12.5	-15.0	20	25.0	-20.0
119	16	26.7	33	55.0	49	40.8	-28.3	35	43.8	-17.1
120	13	21.7	34	56.7	47	39.2	-35.0	42	52.5	-30.8
121	5	8.3	16	27.1	21	17.6	-18.8	32	40.0	-31.7
122	2	3.3	12	20.0	14	11.7	-16.7	28	35.0	-31.7
123	1	1.7	10	16.7	11	9.2	-15.0	6	7.5	-5.8
124	17	28.3	35	58.3	52	43.3	-30.0	29	36.3	-7.9
125	14	23.3	39	65.0	53	44.2	-41.7	46	57.5	-34.2
126	19	31.7	39	66.1	58	48.7	-34.4	47	58.8	-27.1
127	9	15.0	24	40.0	33	27.5	-25.0	31	38.8	-23.8
128	22	36.7	45	75.0	67	55.8	-38.3	48	60.0	-23.3
129	20	33.3	35	58.3	55	45.8	-25.0	29	36.3	-2.9
130	8	13.3	24	40.0	32	26.7	-26.7	27	33.8	-20.4
131	3	5.0	19	31.7	22	18.3	-26.7	15	18.8	-13.8
132	15	25.0	33	55.0	48	40.0	-30.0	32	40.0	-15.0
133	1	1.7	10	16.7	11	9.2	-15.0	21	26.3	-24.6
134	1	1.7	14	23.3	15	12.5	-21.7	26	32.5	-30.8
135	2	3.3	16	26.7	18	15.0	-23.3	25	31.3	-27.9

TASK	PERFORMED BY WORKERS Q1(+) N	Q1(+) %	Q6(1-7) N	Q6(1-7) %	Q1+Q6 N	Q1+Q6 %	D:Q1-Q6 %	DESIRED BY ALL SUPERVISORS Q2(+) N	Q2(+) %	D:Q1-Q2 %
136	0	0.0	8	13.3	8	6.7	-13.3	7	8.8	-8.8
137	3	5.0	14	23.3	17	14.2	-18.3	15	18.8	-13.8
138	1	1.7	13	22.0	14	11.8	-20.4	11	13.8	-12.1
139	1	1.7	13	22.0	14	11.8	-20.4	17	21.3	-19.6
140	0	0.0	16	27.1	16	13.4	-27.1	29	36.3	-36.3
141	8	13.3	32	54.2	40	33.6	-40.9	35	43.8	-30.4
142	1	1.7	7	11.9	8	6.7	-10.2	17	21.3	-19.6
143	36	60.0	51	85.0	87	72.5	-25.0	45	56.3	3.8
144	9	15.0	36	60.0	45	37.5	-45.0	15	18.8	-3.8
145	26	43.3	42	70.0	68	56.7	-26.7	29	36.3	7.1
146	10	16.7	38	63.3	48	40.0	-46.7	22	27.5	-10.8
147	28	46.7	47	78.3	75	62.5	-31.7	38	47.5	-0.8
148	15	25.0	35	58.3	50	41.7	-33.3	18	22.5	2.5
149	6	10.0	29	48.3	35	29.2	-38.3	21	26.3	-16.3
150	19	31.7	32	53.3	51	42.5	-21.7	29	36.3	-4.6
151	2	3.3	8	13.3	10	8.3	-10.0	9	11.3	-7.9
152	14	23.3	30	50.0	44	36.7	-26.7	18	22.5	0.8
153	5	8.3	14	23.3	19	15.8	-15.0	6	7.5	0.8
154	5	8.3	22	36.7	27	22.5	-28.3	17	21.3	-12.9
155	32	53.3	48	80.0	80	66.7	-26.7	50	62.5	-9.2
156	18	30.0	42	70.0	60	50.0	-40.0	45	56.3	-26.3
157	2	3.3	20	33.9	22	18.5	-30.6	12	15.0	-11.7
158	2	3.3	8	13.8	10	8.5	-10.5	5	6.3	-2.9
159	12	20.0	29	49.2	41	34.5	-29.2	31	38.8	-18.8
160	12	20.0	25	42.4	37	31.1	-22.4	29	36.3	-16.3
161	2	3.3	15	25.4	17	14.3	-22.1	19	23.8	-20.4
162	2	3.3	16	27.1	18	15.1	-23.8	3	3.8	-0.4
163	9	15.0	30	50.8	39	32.8	-35.8	22	27.5	-12.5
164	2	3.3	14	23.7	16	13.4	-20.4	11	13.8	-10.4
165	8	13.3	24	41.4	32	27.1	-28.0	13	16.3	-2.9
166	1	1.7	10	17.2	11	9.3	-15.6	5	6.3	-4.6
167	11	18.3	26	44.1	37	31.1	-25.7	24	30.0	-11.7
168	10	16.7	32	54.2	42	35.3	-37.6	28	35.0	-18.3
169	6	10.0	21	35.6	27	22.7	-25.6	27	33.8	-23.8
170	14	23.3	34	57.6	48	40.3	-34.3	30	37.5	-14.2

TASK	PERFORMED BY WORKERS Q1(+) N	Q1(+) %	Q6(1-7) N	Q6(1-7) %	Q1+Q6 N	Q1+Q6 %	D:Q1-Q6 %	DESIRED BY ALL SUPERVISORS Q2(+) N	Q2(+) %	D:Q1-Q2 %
171	20	33.3	42	71.2	62	52.1	-37.9	39	48.8	-15.4
172	17	28.3	40	67.8	57	47.9	-39.5	44	55.0	-26.7
173	12	20.0	27	45.8	39	32.8	-25.8	24	30.0	-10.0
174	25	41.7	42	72.4	67	56.8	-30.7	40	50.0	-8.3
175	17	28.3	33	56.9	50	42.4	-28.6	25	31.3	-2.9
176	15	25.0	33	55.0	48	40.0	-30.0	21	26.3	-1.3
177	20	33.3	43	71.7	63	52.5	-38.3	35	43.8	-10.4
178	18	30.0	35	58.3	53	44.2	-28.3	42	52.5	-22.5
179	2	3.3	11	18.3	13	10.8	-15.0	6	7.5	-4.2
180	11	18.3	19	31.7	30	25.0	-13.3	20	25.0	-6.7
181	27	45.0	25	41.7	52	43.3	3.3	23	28.8	16.3
182	21	35.0	21	35.0	42	35.0	0.0	12	15.0	20.0
183	14	23.3	16	26.7	30	25.0	-3.3	14	17.5	5.8
184	22	36.7	36	60.0	58	48.3	-23.3	27	33.8	2.9
185	11	18.3	23	38.3	34	28.3	-20.0	13	16.3	2.1
186	1	1.7	7	11.7	8	6.7	-10.0	14	17.5	-15.8
187	5	8.3	10	16.7	15	12.5	-8.3	18	22.5	-14.2
188	9	15.0	13	21.7	22	18.3	-6.7	15	18.8	-3.8
189	29	48.3	28	46.7	57	47.5	1.7	24	30.0	18.3
190	7	11.7	18	30.0	25	20.8	-18.3	13	16.3	-4.6
191	27	45.0	24	40.0	51	42.5	5.0	24	30.0	15.0
192	7	11.7	20	33.3	27	22.5	-21.7	16	20.0	-8.3
193	6	10.0	9	15.0	15	12.5	-5.0	6	7.5	2.5
194	9	15.0	18	30.0	27	22.5	-15.0	11	13.8	1.3
195	19	31.7	33	55.0	52	43.3	-23.3	14	17.5	14.2
196	42	70.0	51	85.0	93	77.5	-15.0	39	48.8	21.3
197	26	43.3	18	30.0	44	36.7	13.3	18	22.5	20.8
198	4	6.7	8	13.3	12	10.0	-6.7	6	7.5	-0.8
199	4	6.7	7	11.7	11	9.2	-5.0	7	8.8	-2.1
200	23	38.3	29	48.3	52	43.3	-10.0	31	38.8	-0.4
201	24	40.0	28	46.7	52	43.3	-6.7	13	16.3	23.8
202	17	28.3	37	61.7	54	45.0	-33.3	19	23.8	4.6
203	12	20.0	22	36.7	34	28.3	-16.7	21	26.3	-6.3
204	23	38.3	31	51.7	54	45.0	-13.3	28	35.0	3.3
205	36	60.0	39	65.0	75	62.5	-5.0	43	53.8	6.3

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
206	35	58.3	44	73.3	79	65.8	-15.0	44	55.0	3.3
207	1	1.7	7	11.7	8	6.7	-10.0	3	3.8	-2.1
208	25	41.7	29	48.3	54	45.0	-6.7	27	33.8	7.9
209	10	16.7	10	16.7	20	16.7	0.0	16	20.0	-3.3
210	6	10.0	3	5.0	9	7.5	5.0	2	2.5	7.5
211	19	31.7	25	41.7	44	36.7	-10.0	22	27.5	4.2
212	22	36.7	27	45.0	49	40.8	-8.3	21	26.3	10.4
213	18	30.0	24	40.0	42	35.0	-10.0	17	21.3	8.8
214	1	1.7	5	8.3	6	5.0	-6.7	4	5.0	-3.3
215	23	38.3	28	46.7	51	42.5	-8.3	21	26.3	12.1
216	25	41.7	31	51.7	56	46.7	-10.0	24	30.0	11.7
217	25	41.7	28	46.7	53	44.2	-5.0	23	28.8	12.9
218	46	76.7	51	85.0	97	80.8	-8.3	48	60.0	16.7
219	38	63.3	46	76.7	84	70.0	-13.3	38	47.5	15.8
220	11	18.3	22	36.7	33	27.5	-18.3	20	25.0	-6.7
221	26	43.3	27	45.0	53	44.2	-1.7	32	40.0	3.3
222	8	13.3	14	23.3	22	18.3	-10.0	19	23.8	-10.4
223	4	6.7	2	3.3	6	5.0	3.3	10	12.5	-5.8
224	34	56.7	43	71.7	77	64.2	-15.0	42	52.5	4.2
225	3	5.0	4	6.7	7	5.8	-1.7	11	13.8	-8.8
226	29	48.3	43	72.9	72	60.5	-24.5	31	38.8	9.6
227	18	30.0	18	30.0	36	30.0	0.0	14	17.5	12.5
228	25	41.7	18	30.0	43	35.8	11.7	16	20.0	21.7
229	18	30.0	31	51.7	49	40.8	-21.7	20	25.0	5.0
230	16	26.7	17	28.3	33	27.5	-1.7	21	26.3	0.4
231	3	5.0	7	11.7	10	8.3	-6.7	5	6.3	-1.3
232	0	0.0	5	8.3	5	4.2	-8.3	1	1.3	-1.3
233	5	8.3	3	5.0	8	6.7	3.3	4	5.0	3.3
234	10	16.7	6	10.0	16	13.3	6.7	7	8.8	7.9
235	2	3.3	7	11.9	9	7.6	-8.5	5	6.3	-2.9
236	44	73.3	51	85.0	95	79.2	-11.7	48	60.0	13.3
237	12	20.0	26	44.1	38	31.9	-24.1	15	18.8	1.3
238	9	15.0	9	15.0	18	15.0	0.0	8	10.0	5.0
239	14	23.3	17	28.3	31	25.8	-5.0	11	13.8	9.6
240	13	21.7	24	40.0	37	30.8	-18.3	25	31.3	-9.6

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
241	9	15.0	18	30.0	27	22.5	-15.0	17	21.3	-6.3
242	0	0.0	5	8.3	5	4.2	-8.3	6	7.5	-7.5
243	4	6.7	13	21.7	17	14.2	-15.0	19	23.8	-17.1
244	4	6.7	16	26.7	20	16.7	-20.0	11	13.8	-7.1
245	7	11.7	18	30.0	25	20.8	-18.3	13	16.3	-4.6
246	7	11.7	23	38.3	30	25.0	-26.7	19	23.8	-12.1
247	2	3.3	3	5.0	5	4.2	-1.7	6	7.5	-4.2
248	7	11.7	20	33.3	27	22.5	-21.7	26	32.5	-20.8
249	6	10.0	11	18.3	17	14.2	-8.3	26	32.5	-22.5
250	2	3.3	12	20.0	14	11.7	-16.7	19	23.8	-20.4
251	2	3.3	9	15.3	11	9.2	-11.9	12	15.0	-11.7
252	11	18.3	23	38.3	34	28.3	-20.0	39	48.8	-30.4
253	10	16.7	21	35.0	31	25.8	-18.3	29	36.3	-19.6
254	12	20.0	24	40.0	36	30.0	-20.0	37	46.3	-26.3
255	33	55.0	42	70.0	75	62.5	-15.0	51	63.8	-8.8
256	2	3.3	14	23.3	16	13.3	-20.0	14	17.5	-14.2
257	0	0.0	4	6.7	4	3.3	-6.7	7	8.8	-8.8
258	3	5.0	7	11.7	10	8.3	-6.7	9	11.3	-6.3
259	3	5.0	12	20.0	15	12.5	-15.0	10	12.5	-7.5
260	5	8.3	10	16.7	15	12.5	-8.3	10	12.5	-4.2
261	0	0.0	5	8.3	5	4.2	-8.3	6	7.5	-7.5
262	0	0.0	6	10.0	6	5.0	-10.0	9	11.3	-11.3
263	7	11.7	15	25.0	22	18.3	-13.3	12	15.0	-3.3
264	0	0.0	8	13.3	8	6.7	-13.3	5	6.3	-6.3
265	5	8.3	12	20.0	17	14.2	-11.7	12	15.0	-6.7
266	0	0.0	7	11.7	7	5.8	-11.7	9	11.3	-11.3
267	11	18.3	24	40.7	35	29.4	-22.3	16	20.0	-1.7
268	17	28.3	32	53.3	49	40.8	-25.0	36	45.0	-16.7
269	6	10.0	22	36.7	28	23.3	-26.7	12	15.0	-5.0
270	2	3.3	18	30.0	20	16.7	-26.7	15	18.8	-15.4
271	3	5.0	8	13.3	11	9.2	-8.3	8	10.0	-5.0
272	3	5.0	5	8.5	8	6.7	-3.5	5	6.3	-1.3
273	1	1.7	4	6.8	5	4.2	-5.1	8	10.0	-8.3
274	1	1.7	6	10.0	7	5.8	-8.3	5	6.3	-4.6
275	1	1.7	4	6.7	5	4.2	-5.0	5	6.3	-4.6

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
276	2	3.3	12	20.0	14	11.7	-16.7	12	15.0	-11.7
277	5	8.3	24	40.0	29	24.2	-31.7	19	23.8	-15.4
278	11	18.3	24	40.0	35	29.2	-21.7	22	27.5	-9.2
279	3	5.0	17	28.3	20	16.7	-23.3	17	21.3	-16.3
280	1	1.7	13	21.7	14	11.7	-20.0	10	12.5	-10.8
281	2	3.3	12	20.0	14	11.7	-16.7	8	10.0	-6.7
282	2	3.3	12	20.0	14	11.7	-16.7	9	11.3	-7.9
283	0	0.0	7	11.7	7	5.8	-11.7	7	8.8	-8.8
284	6	10.0	23	38.3	29	24.2	-28.3	26	32.5	-22.5
285	9	15.0	22	36.7	31	25.8	-21.7	18	22.5	-7.5
286	1	1.7	8	13.3	9	7.5	-11.7	6	7.5	-5.8
287	1	1.7	10	16.7	11	9.2	-15.0	8	10.0	-8.3
288	0	0.0	5	8.3	5	4.2	-8.3	9	11.3	-11.3
289	1	1.7	9	15.0	10	8.3	-13.3	11	13.8	-12.1
290	5	8.3	19	31.7	24	20.0	-23.3	17	21.3	-12.9
291	4	6.7	22	36.7	26	21.7	-30.0	18	22.5	-15.8
292	5	8.3	21	35.0	26	21.7	-26.7	21	26.3	-17.9
293	0	0.0	6	10.0	6	5.0	-10.0	5	6.3	-6.3
294	1	1.7	11	18.3	12	10.0	-16.7	9	11.3	-9.6
295	22	36.7	27	45.0	49	40.8	-8.3	31	38.8	-2.1
296	38	63.3	52	86.7	90	75.0	-23.3	55	68.8	-5.4
297	48	80.0	56	93.3	104	86.7	-13.3	60	75.0	5.0
298	55	91.7	55	91.7	110	91.7	0.0	70	87.5	4.2
299	51	85.0	58	96.7	109	90.8	-11.7	66	82.5	2.5
300	49	81.7	57	95.0	106	88.3	-13.3	61	76.3	5.4
301	11	18.3	33	55.0	44	36.7	-36.7	19	23.8	-5.4
302	40	66.7	54	90.0	94	78.3	-23.3	53	66.3	0.4
303	16	26.7	38	63.3	54	45.0	-36.7	31	38.8	-12.1
304	7	11.7	34	56.7	41	34.2	-45.0	17	21.3	-9.6
305	26	43.3	39	65.0	65	54.2	-21.7	39	48.8	-5.4
306	20	33.3	42	70.0	62	51.7	-36.7	49	61.3	-27.9
307	34	56.7	37	61.7	71	59.2	-5.0	53	66.3	-9.6
308	30	50.0	43	71.7	73	60.8	-21.7	52	65.0	-15.0
309	52	86.7	59	98.3	111	92.5	-11.7	68	85.0	1.7
310	24	40.0	38	63.3	62	51.7	-23.3	46	57.5	-17.5

TASK	PERFORMED BY WORKERS: Q1(+) N	Q1(+) %	Q6(1-7) N	Q6(1-7) %	Q1+Q6 N	Q1+Q6 %	D:Q1-Q6 %	DESIRED BY ALL SUPERVISORS: Q2(+) N	Q2(+) %	D:Q1-Q2 %
311	24	40.0	40	66.7	64	53.3	-26.7	36	45.0	-5.0
312	33	55.0	50	84.7	83	69.7	-29.7	45	56.3	-1.3
313	29	48.3	50	83.3	79	65.8	-35.0	52	65.0	-16.7
314	8	13.3	26	43.3	34	28.3	-30.0	25	31.3	-17.9
315	31	51.7	45	75.0	76	63.3	-23.3	60	75.0	-23.3
316	21	35.0	39	65.0	60	50.0	-30.0	38	47.5	-12.5
317	20	33.3	42	71.2	62	52.1	-37.9	55	68.8	-35.4
318	57	95.0	59	98.3	116	96.7	-3.3	76	95.0	0.0
319	34	56.7	49	81.7	83	69.2	-25.0	54	67.5	-10.8
320	24	40.0	44	73.3	68	56.7	-33.3	41	51.3	-11.3
321	41	68.3	48	80.0	89	74.2	-11.7	70	87.5	-19.2
322	1	1.7	15	25.0	16	13.3	-23.3	9	11.3	-9.6
323	44	73.3	52	86.7	96	80.0	-13.3	58	72.5	0.8
324	1	1.7	11	18.3	12	10.0	-16.7	7	8.8	-7.1
325	11	18.3	30	50.0	41	34.2	-31.7	30	37.5	-19.2
326	54	90.0	55	93.2	109	91.6	-3.2	64	80.0	10.0
327	14	23.3	27	45.0	41	34.2	-21.7	24	30.0	-6.7
328	18	30.0	34	57.6	52	43.7	-27.6	15	18.8	11.3
329	17	28.3	29	48.3	46	38.3	-20.0	24	30.0	-1.7
330	55	91.7	59	98.3	114	95.0	-6.7	46	82.5	9.2
331	52	86.7	56	93.3	108	90.0	-6.7	60	75.0	11.7
332	37	61.7	49	81.7	86	71.7	-20.0	45	56.3	5.4
333	23	38.3	40	66.7	63	52.5	-28.3	37	46.3	-7.9
334	17	28.3	32	53.3	49	40.8	-25.0	44	55.0	-26.7
335	0	0.0	11	18.6	11	9.2	-18.6	7	8.8	-8.8
336	19	31.7	29	48.3	48	40.0	-16.7	28	35.0	-3.3
337	21	35.0	41	69.5	62	52.1	-34.5	39	48.8	-13.8
338	31	51.7	47	78.3	78	65.0	-26.7	58	72.5	-20.8
339	33	55.0	48	81.4	81	68.1	-26.4	45	56.3	-1.3
340	9	15.0	32	53.3	41	34.2	-38.3	25	31.3	-16.3
341	24	40.0	43	71.7	67	55.8	-31.7	43	53.8	-13.8
342	23	38.3	42	70.0	65	54.2	-31.7	39	48.8	-10.4
343	36	60.0	47	78.3	83	69.2	-18.3	50	62.5	-2.5
344	12	20.0	33	55.0	45	37.5	-35.0	25	31.3	-11.3
345	15	25.0	39	65.0	54	45.0	-40.0	33	41.3	-16.3

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
346	17	28.3	28	46.7	45	37.5	-18.3	32	40.0	-11.7
347	22	36.7	40	66.7	62	51.7	-30.0	35	43.8	-7.1
348	9	15.0	30	50.0	39	32.5	-35.0	26	32.5	-17.5
349	1	1.7	20	33.3	21	17.5	-31.7	8	10.0	-8.3
350	41	68.3	58	96.7	99	82.5	-28.3	59	73.8	-5.4
351	37	61.7	58	96.7	95	79.2	-35.0	56	70.0	-8.3
352	48	80.0	58	96.7	106	88.3	-16.7	61	76.3	3.8
353	24	40.0	44	73.3	68	56.7	-33.3	42	52.5	-12.5
354	59	98.3	60	100.0	119	99.2	-1.7	65	81.3	17.1
355	11	18.3	40	66.7	51	42.5	-48.3	24	30.0	-11.7
356	34	56.7	51	85.0	85	70.8	-28.3	51	63.8	-7.1
357	11	18.3	35	58.3	46	38.3	-40.0	23	28.8	-10.4
358	6	10.0	21	35.0	27	22.5	-25.0	10	12.5	-2.5
359	22	36.7	34	56.7	56	46.7	-20.0	34	42.5	-5.8
360	28	46.7	35	58.3	63	52.5	-11.7	29	36.3	10.4
361	8	13.3	24	40.0	32	26.7	-26.7	14	17.5	-4.2
362	29	48.3	47	78.3	76	63.3	-30.0	37	46.3	2.1
363	16	26.7	17	28.3	33	27.5	-1.7	16	20.0	6.7
364	40	66.7	51	85.0	91	75.8	-18.3	45	56.3	10.4
365	0	0.0	9	15.0	9	7.5	-15.0	5	6.3	-6.3
366	39	65.0	56	93.3	95	79.2	-28.3	53	66.3	-1.3
367	16	26.7	41	68.3	57	47.5	-41.7	18	22.5	4.2
368	16	26.7	29	48.3	45	37.5	-21.7	33	41.3	-14.6
369	1	1.7	17	28.3	18	15.0	-26.7	12	15.0	-13.3
370	24	40.0	37	61.7	61	50.8	-21.7	33	41.3	-1.3
371	14	23.3	28	46.7	42	35.0	-23.3	28	35.0	-11.7
372	27	45.0	29	48.3	56	46.7	-3.3	35	43.8	1.3
373	18	30.0	36	60.0	54	45.0	-30.0	42	52.5	-22.5
374	48	80.0	58	96.7	106	88.3	-16.7	54	67.5	12.5
375	54	90.0	58	96.7	112	93.3	-6.7	59	73.8	16.3
376	49	81.7	60	100.0	109	90.8	-18.3	57	71.3	10.4
377	17	28.3	28	46.7	45	37.5	-18.3	34	42.5	-14.2
378	13	21.7	38	63.3	51	42.5	-41.7	26	32.5	-10.8
379	8	13.3	21	35.0	29	24.2	-21.7	11	13.8	-0.4
380	33	55.0	47	78.3	80	66.7	-23.3	55	68.8	-13.8

TASK	PERFORMED BY WORKERS: Q1(+) N	Q1(+) %	Q6(1-7) N	Q6(1-7) %	Q1+Q6 N	Q1+Q6 %	D:Q1-Q6 %	DESIRED BY ALL SUPERVISORS: Q2(+) N	Q2(+) %	D:Q1-Q2 %
381	7	11.7	33	55.0	40	33.3	-43.3	17	21.3	-9.6
382	5	8.3	28	46.7	33	27.5	-38.3	15	18.8	-10.4
383	12	20.0	33	55.0	45	37.5	-35.0	20	25.0	-5.0
384	6	10.0	22	36.7	28	23.3	-26.7	18	22.5	-12.5
385	19	31.7	27	45.0	46	38.3	-13.3	27	33.8	-2.1
386	7	11.7	17	28.3	24	20.0	-16.7	22	27.5	-15.8
387	13	21.7	25	41.7	38	31.7	-20.0	27	33.8	-12.1
388	34	56.7	48	80.0	82	68.3	-23.3	45	56.3	0.4
389	42	70.0	51	85.0	93	77.5	-15.0	57	71.3	-1.3
390	27	45.0	48	80.0	75	62.5	-35.0	49	61.3	-18.3
391	10	16.7	30	50.0	40	33.3	-33.3	20	25.0	-8.3
392	3	5.0	21	35.0	24	20.0	-30.0	17	21.3	-16.3
393	2	3.3	12	20.0	14	11.7	-16.7	11	13.8	-10.4
394	59	98.3	60	100.0	119	99.2	-1.7	67	83.8	14.6
395	48	80.0	60	100.0	108	90.0	-20.0	58	72.5	7.5
396	56	93.3	60	100.0	116	96.7	-6.7	66	82.5	10.8
397	56	93.3	59	98.3	115	95.8	-5.0	66	82.5	10.8
398	4	6.7	20	33.3	24	20.0	-26.7	12	15.0	-8.3
399	5	8.3	17	28.3	22	18.3	-20.0	11	13.8	-5.4
400	22	36.7	35	58.3	57	47.5	-21.7	49	61.3	-24.6
401	53	88.3	58	96.7	111	92.5	-8.3	65	81.3	7.1
402	13	21.7	33	55.0	46	38.3	-33.3	44	55.0	-33.3
403	33	55.0	53	88.3	86	71.7	-33.3	50	62.5	-7.5
404	14	23.3	28	46.7	42	35.0	-23.3	30	37.5	-14.2
405	14	23.3	29	48.3	43	35.8	-25.0	27	33.8	-10.4
406	6	10.0	23	38.3	29	24.2	-28.3	26	32.5	-22.5
407	20	33.3	41	68.3	61	50.8	-35.0	33	41.3	-7.9
408	1	1.7	9	15.5	10	8.5	-13.9	8	10.0	-8.3
409	1	1.7	9	15.3	10	8.4	-13.6	17	21.3	-19.6
410	15	25.0	33	55.0	48	40.0	-30.0	32	40.0	-15.0
411	21	35.0	44	73.3	65	54.2	-38.3	39	48.8	-13.8
412	17	28.3	32	53.3	49	40.8	-25.0	34	42.5	-14.2
413	6	10.0	23	39.0	29	24.4	-29.0	26	32.5	-22.5
414	5	8.3	26	43.3	31	25.8	-35.0	25	31.3	-22.9
415	10	16.7	30	50.0	40	33.3	-33.3	34	42.5	-25.8

	PERFORMED BY WORKERS							DESIRED BY ALL SUPERVISORS		
	Q1(+)		Q6(1-7)		Q1+Q6		D:Q1-Q6	Q2(+)		D:Q1-Q2
TASK	N	%	N	%	N	%	%	N	%	%
416	6	10.0	22	36.7	28	23.3	-26.7	20	25.0	-15.0
417	5	8.3	16	26.7	21	17.5	-18.3	30	37.5	-29.2
418	6	10.0	15	25.0	21	17.5	-15.0	23	28.8	-18.8
419	12	20.0	29	48.3	41	34.2	-28.3	21	26.3	-6.3
420	15	25.0	38	63.3	53	44.2	-38.3	36	45.0	-20.0
421	18	30.0	45	75.0	63	52.5	-45.0	35	43.8	-13.8
422	6	10.0	24	40.0	30	25.0	-30.0	24	30.0	-20.0
423	1	1.7	13	21.7	14	11.7	-20.0	21	26.3	-24.6
424	2	3.3	10	16.7	12	10.0	-13.3	14	17.5	-14.2
425	2	3.3	15	25.0	17	14.2	-21.7	21	26.3	-22.9
426	4	6.7	22	37.9	26	22.0	-31.3	21	26.3	-19.6
427	14	23.3	34	56.7	48	40.0	-33.3	20	25.0	-1.7
428	20	33.3	42	70.0	62	51.7	-36.7	36	45.0	-11.7
429	3	5.0	12	20.0	15	12.5	-15.0	12	15.0	-10.0
430	2	3.3	19	31.7	21	17.5	-28.3	22	27.5	-24.2
431	11	18.3	26	43.3	37	30.8	-25.0	41	51.3	-32.9
432	10	16.7	27	45.0	37	30.8	-28.3	30	37.5	-20.8
433	9	15.0	24	40.7	33	27.7	-25.7	24	30.0	-15.0
434	7	11.7	25	41.7	32	26.7	-30.0	21	26.3	-14.6
435	27	45.0	49	83.1	76	63.9	-38.1	50	62.5	-17.5
436	3	5.0	17	28.3	20	16.7	-23.3	10	12.5	-7.5
437	3	5.0	25	41.7	28	23.3	-36.7	17	21.3	-16.3
438	15	25.0	43	71.7	58	48.3	-46.7	47	58.8	-33.8
439	22	36.7	43	71.7	65	54.2	-35.0	37	46.3	-9.6
440	8	13.3	40	66.7	48	40.0	-53.3	31	38.8	-25.4
441	1	1.7	9	15.0	10	8.3	-13.3	4	5.0	-3.3
442	0	0.0	13	22.4	13	11.0	-22.4	13	16.3	-16.3
443	26	43.3	46	76.7	72	60.0	-33.3	39	48.8	-5.4
444	5	8.3	21	35.0	26	21.7	-26.7	12	15.0	-6.7
445	27	45.0	46	76.7	73	60.8	-31.7	45	56.3	-11.3
446	1	1.7	24	40.0	25	20.8	-38.3	18	22.5	-20.8
447	17	28.3	38	63.3	55	45.8	-35.0	39	48.8	-20.4
448	16	26.7	32	53.3	48	40.0	-26.7	39	48.8	-22.1
449	7	11.7	20	33.3	27	22.5	-21.7	21	26.3	-14.6
450	8	13.3	20	33.3	28	23.3	-20.0	25	31.3	-17.9

TASK	PERFORMED BY WORKERS: Q1(+) N	Q1(+) %	Q6(1-7) N	Q6(1-7) %	Q1+Q6 N	Q1+Q6 %	D:Q1-Q6 %	DESIRED BY ALL SUPERVISORS: Q2(+) N	Q2(+) %	D:Q1-Q2 %
451	11	18.3	26	43.3	37	30.8	-25.0	31	38.8	-20.4
452	26	43.3	40	66.7	66	55.0	-23.3	37	46.3	-2.9
453	2	3.3	16	26.7	18	15.0	-23.3	8	10.0	-6.7
454	1	1.7	13	21.7	14	11.7	-20.0	10	12.5	-10.8
455	1	1.7	12	20.0	13	10.8	-18.3	10	12.5	-10.8
456	0	0.0	12	20.0	12	10.0	-20.0	10	12.5	-12.5
457	18	30.0	25	41.7	43	35.8	-11.7	23	28.8	1.3
458	9	15.0	24	40.0	33	27.5	-25.0	13	16.3	-1.3
459	2	3.3	16	26.7	18	15.0	-23.3	11	13.8	-10.4
460	28	46.7	42	70.0	70	58.3	-23.3	36	45.0	1.7
461	29	48.3	44	74.6	73	61.3	-26.2	40	50.0	-1.7
462	34	56.7	48	80.0	82	68.3	-23.3	48	60.0	-3.3
463	28	46.7	46	76.7	74	61.7	-30.0	41	51.3	-4.6
464	19	31.7	35	58.3	54	45.0	-26.7	29	36.3	-4.6
465	13	21.7	30	50.0	43	35.8	-28.3	32	40.0	-18.3
466	35	58.3	46	76.7	81	67.5	-18.3	50	62.5	-4.2
467	27	45.0	44	73.3	71	59.2	-28.3	45	56.3	-11.3
468	20	33.3	31	51.7	51	42.5	-18.3	26	32.5	0.8
469	13	21.7	33	55.0	46	38.3	-33.3	24	30.0	-8.3
470	4	6.7	28	46.7	32	26.7	-40.0	16	20.0	-13.3
471	3	5.0	23	38.3	26	21.7	-33.3	19	23.8	-18.8
472	10	16.7	23	38.3	33	27.5	-21.7	28	35.0	-18.3
473	4	6.7	14	23.3	18	15.0	-16.7	15	18.8	-12.1
474	9	15.0	18	30.0	27	22.5	-15.0	25	31.3	-16.3

Table C-2

Task Importance (Q8 and Q9)[a]

Question 8: Task Importance to Job (Workers)

What degree of importance would you assign to each job activity you perform? Judge the importance of each activity in regard to its contribution to effective operations in your office or firm.

Categories and Values of the Response Scale:

1 = Low importance (relatively unimportant part of the job).
2 = Moderate importance (important but not essential).
3 = High importance (essential part of the job that decisively influences the effectiveness of the office operations).

Question 9: Task Importance to Job (Supervisors)

Based upon your supervisory experience in your present operations, what degree of importance would you assign to each job activity that is appropriate for your Business Data Programmers? Judge the importance of each activity in regard to its contribution to effective operations in your office or firm.

Categories and Values of the Response Scale: Identical to those of Question 8.

Each of the 22 columns of Table C-2 is identified below.

Column 11: Average (mean) of worker ratings, considering only those who checked (Question 1) that the task was performed.

Column 12: Standard deviation showing degree of response variability.

Column 13: Number of workers who rate the task 1-3 (Question 8).

[a]Questions 8 and 9 were answered only for those tasks checked on Q1 or Q2.

Table C-2-continued

Columns 14, 15, and 16: Average, standard deviation, and number of supervisors who rated the task (Question 9), considering only those who checked (Question 2) that the task should be performed.

Column 17: Difference between worker and supervisor average ratings (Column 11 minus Column 14).

Columns 18 through 24: Same as Columns 11 through 17, except the average ratings were computed across all persons in each group. Persons not checking the task (Questions 1 or 2) were included in the average by considering their rating to be a value of "0."

Note: The Column 18-24 summaries may be of value in providing greater comparability with Question 6 ratings as given in Table C-3. Columns 18-24 denote a task's rating with respect to job importance for the entire occupation that is represented in the survey. On the other hand, Columns 11-17 denote a task's job importance only in regard to those in an occupation who do or should perform that task. Thus, a task might only be required of a very few workers but for them it could be highly important. Extremely difficult tasks, involving great skill and experience, could be of this nature.

Columns 25, 26, 27, and 28: Number of surveyed workers using each level of the importance scale. Column 25 (None) is the complement of the number of workers checking the task on Question 1, as recorded in Column 1 on Table C-1.

Columns 29 through 32: Same as Columns 25 through 28, but for supervisors' ratings. Column 29 (None) is the complement of that portion of Column 8 (Table C-1) represented by the 40 supervisors in Group 1.

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 2: TASK IMPORTANCE (Q8 & Q9)

	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
TASK	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
1	2.2	0.7	6	2.0	0.9	8	0.2	0.2	0.7	59	0.4	0.9	40	-0.2	53	1	3	2	32	3	2	3
2	2.1	0.7	31	2.0	0.7	28	0.1	1.2	1.2	56	1.4	1.1	40	-0.2	25	5	17	9	12	6	15	7
3	2.8	0.4	37	2.7	0.6	29	0.1	1.8	1.4	56	1.9	1.3	40	-0.1	29	0	9	28	11	3	3	23
4	2.4	0.6	35	2.6	0.5	29	-0.2	1.5	1.3	56	1.9	1.2	40	-0.4	21	3	16	16	11	0	11	18
5	2.3	0.8	21	2.4	0.7	20	-0.1	0.8	1.2	58	1.2	1.3	39	-0.4	37	4	7	10	19	2	8	10
6	2.3	0.8	17	2.5	0.8	12	-0.2	0.7	1.1	56	0.8	1.2	40	-0.1	39	4	4	9	28	2	2	8
7	2.2	0.5	23	2.1	0.6	23	0.1	0.9	1.1	57	1.2	1.2	40	-0.3	34	1	16	6	17	3	14	6
8	2.0	0.8	14	1.7	0.5	24	0.3	0.5	0.9	59	1.0	0.9	40	-0.6	45	5	4	5	16	8	15	1
9	2.1	0.7	15	2.0	0.8	15	0.1	0.5	1.0	59	0.8	1.1	40	-0.2	44	3	8	4	25	5	5	5
10	1.8	0.7	5	2.0	0.7	13	-0.2	0.1	0.5	60	0.6	1.0	40	-0.5	55	2	2	1	27	3	7	3
11	2.2	0.6	10	2.1	0.7	13	0.1	0.4	0.9	58	0.7	1.1	40	-0.3	48	1	6	3	27	3	6	4
12	2.0	0.0	2	1.9	0.5	10	0.1	0.1	0.4	60	0.5	0.9	40	-0.4	58	0	2	0	30	2	7	1
13	1.0	0.0	3	1.7	0.7	6	-0.7	0.1	0.2	59	0.3	0.7	40	-0.2	56	3	0	0	34	3	2	1
14	1.8	0.7	18	2.2	0.6	24	-0.4	0.6	0.9	57	1.3	1.1	40	-0.7	39	7	8	3	16	2	16	6
15	2.0	0.8	12	1.8	0.8	20	0.3	0.4	0.9	59	0.9	1.0	40	-0.5	47	4	4	4	20	9	7	4
16	2.0	0.0	1	1.3	0.4	4	0.8	0.0	0.3	60	0.1	0.4	40	-0.1	59	0	1	0	36	3	1	0
17	1.7	0.5	3	1.4	0.5	5	0.3	0.1	0.4	60	0.2	0.5	40	-0.1	57	1	2	0	35	3	2	0
18	2.0	0.0	3	2.1	0.8	8	-0.1	0.1	0.4	60	0.4	0.9	40	-0.3	57	0	3	0	32	2	3	3
19	2.3	0.6	12	2.3	0.4	18	-0.0	0.5	1.0	58	1.0	1.2	40	-0.6	46	1	7	4	22	0	13	5
20	2.3	0.6	12	2.1	0.6	16	0.3	0.5	1.0	58	0.8	1.1	40	-0.3	46	1	6	5	24	2	11	3
21	0.0	0.0	0	1.6	0.5	7	-1.6	0.0	0.0	60	0.3	0.6	40	-0.3	60	0	0	0	33	3	4	0
22	0.0	0.0	0	1.7	0.5	7	-1.7	0.0	0.0	60	0.3	0.7	40	-0.3	60	0	0	0	33	2	5	0
23	2.0	0.7	9	2.0	0.6	5	0.0	0.3	0.8	60	0.3	0.7	40	0.0	51	2	5	2	35	1	3	1
24	3.0	0.0	1	1.4	0.5	8	1.6	0.0	0.4	60	0.3	0.6	40	-0.2	59	0	0	1	32	5	3	0
25	0.0	0.0	0	1.3	0.4	8	-1.3	0.0	0.0	60	0.3	0.5	40	-0.3	60	0	0	0	32	6	2	0
26	2.4	0.7	20	2.5	0.7	16	-0.1	0.8	1.2	58	1.0	1.3	40	-0.2	38	2	8	10	24	2	4	10
27	2.2	0.6	22	1.8	0.5	21	0.4	0.8	1.1	57	0.9	1.0	40	-0.1	35	3	12	7	19	6	14	1
28	2.0	0.7	11	2.0	0.5	7	0.0	0.4	0.8	59	0.3	0.8	40	0.0	48	3	5	3	33	1	5	1
29	2.0	0.0	1	1.7	0.5	12	0.3	0.0	0.3	60	0.5	0.8	40	-0.5	59	0	1	0	28	4	8	0
30	1.0	0.0	1	2.1	0.6	7	-1.1	0.0	0.1	60	0.4	0.9	40	-0.4	59	1	0	0	33	1	4	2

	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
TASK	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
31	1.3	0.5	10	1.8	0.7	10	-0.5	0.2	0.5	58	0.4	0.9	40	-0.2	48	7	3	0	30	4	4	2
32	2.0	0.0	1	2.0	0.8	3	0.0	0.0	0.3	60	0.1	0.6	40	-0.1	59	0	1	0	37	1	1	1
33	3.0	0.0	1	1.3	0.5	3	1.7	0.0	0.4	60	0.1	0.4	39	-0.1	59	0	0	1	36	2	1	0
34	2.4	0.7	8	2.1	0.6	14	0.3	0.3	0.9	58	0.7	1.0	40	-0.4	50	1	3	4	26	2	9	3
35	2.5	0.5	2	2.3	0.5	6	0.2	0.1	0.5	59	0.3	0.9	40	-0.3	57	0	1	1	34	0	4	2
36	2.3	0.7	13	2.6	0.6	23	-0.3	0.5	1.0	58	1.6	1.4	38	-1.1	45	2	5	6	15	2	5	16
37	2.4	0.6	14	2.2	0.6	22	0.2	0.6	1.1	58	1.3	1.2	37	-0.7	44	1	7	6	15	2	14	6
38	1.3	0.5	3	2.0	0.8	6	-0.7	0.1	0.3	59	0.3	0.8	40	-0.2	56	2	1	0	34	2	2	2
39	2.4	0.7	17	2.5	0.5	23	-0.2	0.7	1.1	58	1.4	1.3	40	-0.8	41	2	7	8	17	0	11	12
40	2.0	0.0	1	2.0	0.0	9	0.0	0.0	0.3	60	0.4	0.9	40	-0.4	59	0	1	0	31	3	3	3
41	2.0	0.0	2	2.0	0.4	5	0.0	0.1	0.4	60	0.3	0.7	40	-0.2	58	0	2	0	35	1	3	1
42	2.1	0.7	24	2.3	0.6	27	-0.1	0.9	1.1	58	1.5	1.2	40	-0.6	34	4	13	7	13	3	14	10
43	1.9	0.7	10	1.9	0.8	8	0.0	0.3	0.8	59	0.4	0.8	40	-0.1	49	3	5	2	32	3	3	2
44	0.0	0.0	0	1.5	0.5	2	-1.5	0.0	0.0	60	0.1	0.3	40	-0.1	60	0	0	0	38	1	1	0
45	1.7	0.7	6	1.6	0.7	10	0.1	0.2	0.6	59	0.4	0.8	40	-0.2	53	3	2	1	30	5	4	1
46	2.0	0.0	1	1.8	0.4	4	0.3	0.0	0.3	60	0.2	0.5	40	-0.1	59	0	1	0	36	1	3	0
47	2.6	0.5	18	2.0	0.7	16	0.6	0.8	1.2	58	0.8	1.1	40	0.0	40	0	7	11	24	4	8	4
48	0.0	0.0	0	1.3	0.4	4	-1.3	0.0	0.0	60	0.1	0.4	40	-0.1	60	0	0	0	36	3	1	0
49	2.0	0.9	5	2.0	0.6	11	0.0	0.2	0.6	59	0.5	0.9	40	-0.4	54	2	1	2	29	2	7	2
50	2.0	0.0	1	2.0	0.0	1	0.0	0.0	0.3	60	0.0	0.3	40	-0.0	59	0	1	0	39	0	1	0
51	1.5	0.5	2	1.0	0.0	5	0.5	0.0	0.3	60	0.1	0.3	40	-0.1	58	1	1	0	35	5	0	0
52	1.0	0.0	1	1.2	0.4	5	-0.2	0.0	0.1	60	0.1	0.4	40	-0.1	59	1	0	0	35	4	1	0
53	2.3	0.5	3	2.3	0.7	7	0.0	0.1	0.5	60	0.4	0.9	40	-0.3	57	0	2	1	33	1	3	3
54	1.7	0.5	6	1.8	0.8	9	-0.1	0.2	0.5	60	0.4	0.8	40	-0.2	54	2	4	0	31	4	3	2
55	1.8	0.4	4	2.0	0.8	3	-0.3	0.1	0.5	59	0.1	0.6	40	-0.0	55	1	3	0	37	1	1	1
56	2.5	0.5	2	2.0	0.7	4	0.5	0.1	0.5	59	0.2	0.6	40	-0.1	57	0	1	1	36	1	2	1
57	0.0	0.0	0	1.8	0.7	5	-1.8	0.0	0.0	60	0.2	0.7	40	-0.2	60	0	0	0	35	2	2	1
58	1.5	0.5	2	1.6	0.5	7	-0.1	0.0	0.3	60	0.3	0.6	40	-0.2	58	1	1	0	33	3	4	0
59	2.3	0.7	20	2.3	0.6	22	-0.1	0.8	1.1	58	1.3	1.2	40	-0.5	38	3	9	8	18	2	11	9
60	1.8	0.7	5	1.9	0.7	15	-0.1	0.2	0.5	59	0.7	1.0	40	-0.6	54	2	2	1	25	4	8	3
61	2.1	0.8	13	2.0	0.7	20	0.1	0.5	1.0	58	1.0	1.1	39	-0.6	45	4	4	5	19	5	10	5
62	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	59	0.0	0.0	40	0.0	59	0	0	0	40	0	0	0
63	0.0	0.0	0	1.8	0.4	6	-1.8	0.0	0.0	60	0.3	0.7	40	-0.3	60	0	0	0	34	1	5	0
64	1.0	0.0	2	1.4	0.5	7	-0.4	0.0	0.2	59	0.3	0.6	40	-0.2	57	2	0	0	33	4	3	0
65	2.8	0.4	28	2.9	0.3	26	-0.1	1.4	1.4	57	1.9	1.4	39	-0.5	29	0	5	23	13	0	3	23

	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
TASK	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
66	3.0	0.0	1	1.9	0.8	7	1.1	0.0	0.4	60	0.3	0.8	40	-0.3	59	0	0	1	33	3	2	2
67	0.0	0.0	0	2.0	0.8	7	-2.0	0.0	0.0	60	0.3	0.8	40	-0.3	60	0	0	0	33	2	3	2
68	2.0	0.7	9	2.0	0.8	9	0.0	0.3	0.8	59	0.4	0.9	40	-0.1	50	2	5	2	31	3	3	3
69	1.3	0.5	3	2.0	0.9	5	-0.7	0.1	0.3	59	0.3	0.7	40	-0.2	56	2	1	0	35	2	1	2
70	1.0	0.0	1	1.0	0.0	1	0.0	0.0	0.1	59	0.0	0.2	40	-0.0	58	1	0	0	39	1	0	0
71	0.0	0.0	0	1.3	0.4	4	-1.3	0.0	0.0	60	0.1	0.4	40	-0.1	60	0	0	0	36	3	1	0
72	2.0	0.8	3	2.3	0.4	4	-0.3	0.1	0.5	60	0.2	0.7	40	-0.1	57	1	1	1	36	0	3	1
73	0.0	0.0	0	1.8	0.4	4	-1.8	0.0	0.0	59	0.2	0.5	40	-0.2	59	0	0	0	36	1	3	0
74	1.7	0.9	3	2.3	0.4	4	-0.6	0.1	0.4	59	0.2	0.7	40	-0.1	56	2	0	1	36	0	3	1
75	0.0	0.0	0	1.3	0.5	3	-1.3	0.0	0.0	60	0.1	0.4	40	-0.1	60	0	0	0	37	2	1	0
76	0.0	0.0	0	1.0	0.0	1	-1.0	0.0	0.0	60	0.0	0.2	40	-0.0	60	0	0	0	39	1	0	0
77	2.2	0.7	14	2.2	0.8	17	0.0	0.5	1.0	60	0.9	1.2	40	-0.4	46	2	7	5	23	4	6	7
78	2.5	0.7	20	2.5	0.6	23	0.0	0.9	1.3	58	1.4	1.3	40	-0.6	38	2	5	13	17	1	9	13
79	1.8	0.5	18	2.1	0.7	28	-0.4	0.5	0.9	59	1.5	1.1	40	-1.0	41	5	12	1	12	5	14	9
80	2.2	0.4	11	1.9	0.7	16	0.3	0.4	0.9	58	0.8	1.0	40	-0.3	47	0	9	2	24	5	8	3
81	2.3	0.7	34	2.4	0.6	29	-0.1	1.4	1.2	57	1.8	1.2	40	-0.4	23	4	17	13	11	2	13	14
82	2.5	0.6	27	2.3	0.6	34	0.2	1.2	1.3	57	2.0	1.0	40	-0.8	30	2	9	16	6	3	17	14
83	2.3	0.6	26	2.4	0.6	32	-0.1	1.0	1.2	59	1.9	1.1	40	-0.9	33	2	15	9	8	2	15	15
84	2.3	0.6	29	2.4	0.7	35	-0.1	1.1	1.2	58	2.1	1.0	40	-0.9	29	3	15	11	5	5	12	18
85	2.2	0.6	25	2.1	0.7	29	0.1	0.9	1.2	58	1.5	1.1	40	-0.6	33	3	14	8	11	6	13	10
86	2.5	0.6	28	2.6	0.5	35	-0.1	1.2	1.3	58	2.3	1.0	40	-1.1	30	2	11	15	5	1	13	21
87	2.3	0.7	30	2.4	0.6	35	-0.2	1.2	1.2	58	2.1	1.0	40	-1.0	28	5	12	13	5	2	16	17
88	2.0	0.8	6	2.0	0.9	5	0.0	0.2	0.7	59	0.3	0.7	40	-0.0	53	2	2	2	35	2	1	2
89	2.0	0.7	12	1.8	0.5	20	0.2	0.4	0.9	59	0.9	1.0	40	-0.5	47	3	6	3	20	4	15	1
90	1.7	0.6	13	1.8	0.5	24	-0.1	0.4	0.8	59	1.0	0.9	40	-0.7	46	5	7	1	16	7	16	1
91	2.7	0.5	9	1.9	0.7	23	0.8	0.4	1.0	59	1.1	1.1	40	-0.7	50	0	3	6	17	6	13	4
92	2.2	0.7	11	1.9	0.6	15	0.3	0.4	0.9	57	0.7	1.0	39	-0.3	46	2	5	4	24	4	9	2
93	2.1	0.7	21	2.3	0.7	20	-0.2	0.8	1.1	57	1.1	1.2	40	-0.4	36	5	9	7	20	3	9	8
94	1.8	0.4	6	2.0	0.8	12	-0.2	0.2	0.6	59	0.6	1.0	40	-0.4	53	1	5	0	28	4	4	4
95	1.5	0.5	2	1.0	0.0	9	0.5	0.1	0.3	59	0.2	0.4	40	-0.2	57	1	1	0	31	9	0	0
96	3.0	0.0	2	2.0	0.5	18	1.0	0.1	0.5	60	0.9	1.0	40	-0.8	58	0	0	2	22	2	14	2
97	3.0	0.0	2	2.0	0.7	20	1.0	0.1	0.5	60	1.0	1.1	40	-0.9	58	0	0	2	20	4	11	5
98	2.0	0.0	1	1.4	0.5	5	0.6	0.0	0.3	60	0.2	0.5	40	-0.1	59	0	1	0	35	3	2	0
99	2.7	0.5	3	2.2	0.6	22	0.4	0.1	0.6	60	1.2	1.2	40	-1.1	57	0	1	2	18	2	13	7
100	2.1	0.5	10	2.3	0.5	24	-0.2	0.4	0.8	59	1.4	1.2	40	-1.0	49	1	7	2	16	1	15	8

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TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
101	2.5	0.7	32	2.6	0.6	35	-0.1	1.4	1.3	59	2.3	1.0	40	-0.9	27	3	10	19	5	2	10	23
102	2.4	0.5	24	2.3	0.5	28	0.1	1.0	1.2	58	1.6	1.1	40	-0.6	34	0	15	9	12	1	19	8
103	0.0	0.0	0	2.2	0.6	11	-2.2	0.0	0.0	60	0.6	1.0	40	-0.6	60	0	0	0	29	1	7	3
104	2.1	0.6	18	2.2	0.7	23	-0.2	0.6	1.0	58	1.3	1.2	40	-0.6	40	3	11	4	17	3	12	8
105	1.4	0.5	12	1.9	0.7	22	-0.4	0.3	0.6	58	1.0	1.1	40	-0.7	46	7	5	0	18	7	11	4
106	2.3	0.7	13	2.0	0.7	31	0.3	0.5	1.0	58	1.5	1.0	40	-1.0	45	2	5	6	9	8	16	7
107	2.3	0.8	15	2.3	0.6	20	0.0	0.6	1.1	59	1.1	1.2	40	-0.6	44	3	4	8	20	1	12	7
108	2.4	0.6	27	2.3	0.7	32	0.1	1.1	1.3	58	1.9	1.1	40	-0.8	31	2	12	13	8	4	13	15
109	2.0	0.0	3	2.1	0.8	15	-0.1	0.1	0.4	59	0.8	1.1	40	-0.7	56	0	3	0	25	4	6	5
110	1.9	0.8	15	1.8	0.5	20	0.2	0.5	0.9	58	0.9	1.0	40	-0.4	43	5	6	4	20	6	13	1
111	1.9	0.6	8	1.7	0.6	20	0.2	0.3	0.7	59	0.8	0.9	40	-0.6	51	2	5	1	20	7	12	1
112	2.1	0.6	19	2.3	0.7	24	-0.2	0.7	1.0	58	1.4	1.2	40	-0.7	39	3	12	4	16	3	11	10
113	1.9	0.6	15	2.1	0.7	19	-0.2	0.5	0.9	57	1.0	1.1	40	-0.5	42	4	9	2	21	4	10	5
114	2.0	0.7	4	1.2	0.4	13	0.8	0.1	0.5	58	0.4	0.6	40	-0.3	44	1	2	1	27	10	3	0
115	2.6	0.6	31	3.0	0.0	31	-0.4	1.5	1.4	56	2.5	1.1	37	-1.0	25	2	7	22	6	0	0	31
116	2.4	0.7	20	2.4	0.6	27	0.0	0.9	1.2	56	1.7	1.2	39	-0.8	36	2	7	11	12	2	11	14
117	2.3	0.6	16	2.0	0.5	24	0.2	0.6	1.1	56	1.2	1.1	40	-0.6	40	1	10	5	16	3	17	4
118	1.5	0.5	2	1.5	0.5	14	0.0	0.1	0.3	59	0.5	0.8	40	-0.5	57	1	1	0	26	7	7	0
119	2.0	0.7	13	2.1	0.7	17	-0.1	0.5	0.9	57	0.9	1.1	40	-0.4	44	3	7	3	23	3	9	5
120	1.6	0.6	11	2.1	0.5	18	-0.4	0.3	0.7	58	0.9	1.1	40	-0.6	47	5	5	1	22	2	13	3
121	2.0	0.8	3	2.1	0.6	19	-0.1	0.1	0.5	58	1.0	1.1	40	-0.9	55	1	1	1	21	3	12	4
122	2.0	1.0	2	1.8	0.8	13	0.2	0.1	0.4	60	0.6	0.9	40	-0.5	58	1	0	1	27	6	4	3
123	0.0	0.0	0	2.0	0.7	4	-2.0	0.0	0.0	59	0.2	0.6	40	-0.2	59	0	0	0	36	1	2	1
124	2.2	0.7	15	2.3	0.7	13	-0.1	0.6	1.0	58	0.8	1.2	40	-0.2	43	2	8	5	27	2	5	6
125	2.5	0.5	14	2.5	0.6	24	-0.0	0.6	1.1	60	1.5	1.3	40	-0.9	46	0	7	7	16	2	7	15
126	2.4	0.5	16	2.4	0.6	23	-0.0	0.7	1.1	57	1.4	1.3	40	-0.7	41	0	10	6	17	2	10	11
127	1.5	0.5	8	1.8	0.7	16	-0.3	0.2	0.5	59	0.7	1.0	40	-0.5	51	4	4	0	24	6	8	2
128	2.2	0.7	19	2.3	0.6	19	-0.1	0.7	1.1	57	1.1	1.2	40	-0.4	38	3	9	7	21	1	11	7
129	2.4	0.8	18	2.1	0.6	13	0.3	0.7	1.2	58	0.7	1.0	40	0.1	40	3	5	10	27	2	8	3
130	2.1	0.3	8	2.1	0.5	12	0.0	0.3	0.7	60	0.6	1.0	40	-0.3	52	0	7	1	28	1	9	2
131	2.0	0.0	2	1.7	0.5	7	0.3	0.1	0.4	59	0.3	0.7	40	-0.2	57	0	2	0	33	2	5	0
132	1.8	0.7	14	2.1	0.5	16	-0.3	0.4	0.8	59	0.8	1.1	40	-0.4	45	5	7	2	24	1	12	3
133	2.0	0.0	1	1.3	0.5	10	0.7	0.0	0.3	60	0.3	0.6	40	-0.3	59	0	1	0	30	7	3	0
134	1.0	0.0	1	1.7	0.7	15	-0.7	0.0	0.1	60	0.6	0.9	40	-0.6	59	1	0	0	25	6	7	2
135	2.0	1.0	2	1.5	0.5	13	0.5	0.1	0.4	60	0.5	0.8	40	-0.4	58	1	0	1	27	6	7	0

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
136	0.0	0.0	0	2.0	1.0	4	-2.0	0.0	0.0	60	0.2	0.7	40	-0.2	60	0	0	0	36	2	0	2
137	2.3	0.5	3	1.9	0.6	7	0.5	0.1	0.5	60	0.3	0.8	40	-0.2	57	0	2	1	33	2	4	1
138	2.0	0.0	1	1.3	0.4	4	0.8	0.0	0.3	60	0.1	0.4	40	-0.1	59	0	1	0	36	3	1	0
139	2.0	0.0	1	1.6	0.7	8	0.4	0.0	0.3	60	0.3	0.7	40	-0.3	59	0	1	0	32	4	3	1
140	0.0	0.0	0	1.9	0.6	15	-1.9	0.0	0.0	60	0.7	1.0	40	-0.7	60	0	0	0	25	3	10	2
141	2.3	0.4	8	2.2	0.6	16	0.1	0.3	0.8	60	0.9	1.1	40	-0.6	52	0	6	2	24	2	9	5
142	3.0	0.0	1	2.0	0.8	6	1.0	0.0	0.4	60	0.3	0.8	40	-0.2	59	0	0	1	34	2	2	2
143	2.4	0.6	34	2.4	0.7	21	0.0	1.4	1.3	58	1.3	1.3	40	0.2	24	1	17	16	19	3	6	12
144	2.1	0.6	8	2.3	0.5	6	-0.2	0.3	0.8	59	0.3	0.9	40	-0.1	51	1	5	2	34	0	4	2
145	2.4	0.6	24	2.8	0.4	11	-0.4	1.0	1.2	58	0.8	1.3	40	0.2	34	1	13	10	29	0	2	9
146	1.8	0.6	9	2.5	0.5	11	-0.7	0.3	0.7	59	0.7	1.1	40	-0.4	50	3	5	1	29	0	6	5
147	2.4	0.6	26	2.6	0.6	16	-0.1	1.1	1.3	58	1.0	1.3	40	0.1	32	2	11	13	24	1	5	10
148	1.8	0.7	15	1.7	0.5	7	0.1	0.4	0.8	60	0.3	0.7	39	0.1	45	5	8	2	32	2	5	0
149	1.6	0.5	5	1.9	0.6	8	-0.3	0.1	0.5	59	0.4	0.8	40	-0.2	54	2	3	0	32	2	5	1
150	1.9	0.8	18	1.8	0.7	15	0.1	0.6	1.0	59	0.7	1.0	40	-0.1	41	6	7	5	25	5	8	2
151	1.0	0.0	2	2.3	0.9	3	-1.3	0.0	0.2	60	0.2	0.7	40	-0.1	58	2	0	0	37	1	0	2
152	2.0	0.6	12	1.9	0.8	7	0.1	0.4	0.9	58	0.3	0.8	40	0.1	46	2	8	2	33	3	2	2
153	2.0	0.0	3	1.5	0.5	2	0.5	0.1	0.4	58	0.1	0.3	40	0.0	55	0	3	0	38	1	1	0
154	1.3	0.4	4	1.7	0.5	7	-0.5	0.1	0.3	59	0.3	0.7	40	-0.2	55	3	1	0	33	2	5	0
155	2.3	0.6	29	2.4	0.5	27	-0.1	1.2	1.2	57	1.6	1.2	40	-0.5	28	2	17	10	13	0	16	11
156	2.1	0.7	16	2.4	0.7	21	-0.3	0.6	1.0	58	1.3	1.3	40	-0.7	42	3	8	5	19	2	9	10
157	1.5	0.5	2	1.6	0.7	8	-0.1	0.0	0.3	60	0.3	0.7	40	-0.3	58	1	1	0	32	4	3	1
158	1.0	0.0	2	1.7	0.5	3	-0.7	0.0	0.2	60	0.1	0.5	40	-0.1	58	2	0	0	37	1	2	0
159	1.8	0.8	12	1.6	0.5	16	0.3	0.4	0.8	60	0.6	0.8	40	-0.3	48	5	4	3	24	7	9	0
160	2.0	0.7	12	1.8	0.7	15	0.2	0.4	0.9	60	0.7	1.0	40	-0.3	48	3	6	3	25	6	6	3
161	2.0	1.0	2	1.3	0.7	6	0.7	0.1	0.4	60	0.2	0.6	40	-0.1	58	1	0	1	34	5	0	1
162	1.5	0.5	2	2.0	0.0	1	-0.5	0.0	0.3	60	0.0	0.3	40	0.0	58	1	1	0	39	0	1	0
163	2.4	0.5	7	2.3	0.6	12	0.2	0.3	0.8	58	0.7	1.1	40	-0.4	51	0	4	3	28	1	7	4
164	1.5	0.5	2	1.5	0.5	2	0.0	0.0	0.3	60	0.1	0.3	40	-0.0	58	1	1	0	38	1	1	0
165	2.0	0.5	7	2.3	0.5	6	-0.3	0.2	0.7	59	0.3	0.9	40	-0.1	52	1	5	1	34	0	4	2
166	1.0	0.0	1	1.0	0.0	1	0.0	0.0	0.1	60	0.0	0.2	40	-0.0	59	1	0	0	39	1	0	0
167	1.9	0.7	10	1.7	0.5	14	0.2	0.3	0.8	59	0.6	0.9	40	-0.3	49	3	5	2	26	4	10	0
168	2.0	0.8	10	1.8	0.8	17	0.2	0.3	0.8	60	0.8	1.0	40	-0.4	50	3	4	3	23	8	5	4
169	2.0	0.6	6	1.8	0.7	17	0.2	0.2	0.6	60	0.8	1.0	40	-0.6	54	1	4	1	23	7	7	3
170	2.1	0.7	11	2.0	0.6	12	0.1	0.4	0.9	57	0.6	1.0	40	-0.2	46	2	6	3	28	2	8	2

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
171	2.4	0.6	19	2.4	0.6	20	-0.1	0.8	1.2	59	1.2	1.3	40	-0.5	40	1	10	8	20	1	9	10
172	1.8	0.5	15	2.0	0.7	23	-0.2	0.5	0.8	58	1.1	1.1	40	-0.7	43	4	10	1	17	6	11	6
173	1.6	0.6	11	1.8	0.7	10	-0.2	0.3	0.7	59	0.4	0.9	40	-0.1	48	5	5	1	30	4	4	2
174	2.3	0.7	22	2.4	0.7	21	-0.1	0.9	1.2	57	1.3	1.3	40	-0.4	35	3	9	10	19	2	8	11
175	2.3	0.7	15	2.3	0.7	12	0.1	0.6	1.1	58	0.7	1.1	40	-0.1	43	2	6	7	28	2	5	5
176	2.2	0.6	13	2.2	0.6	11	0.0	0.5	1.0	58	0.6	1.0	40	-0.1	45	1	8	4	29	1	7	3
177	2.2	0.7	19	2.0	0.7	20	0.2	0.7	1.1	59	1.0	1.1	40	-0.3	40	3	9	7	20	5	10	5
178	2.6	0.7	16	2.7	0.5	19	-0.1	0.7	1.2	58	1.3	1.4	40	-0.6	42	2	3	11	21	0	6	13
179	2.0	0.0	2	1.0	0.0	1	1.0	0.1	0.4	60	0.0	0.2	40	0.0	58	0	2	0	39	1	0	0
180	2.0	0.9	10	1.4	0.5	11	0.6	0.3	0.8	59	0.4	0.7	40	-0.0	49	4	2	4	29	7	4	0
181	1.6	0.6	25	2.3	0.8	12	-0.7	0.7	0.9	58	0.7	1.1	40	-0.0	33	13	10	2	28	3	3	6
182	1.3	0.4	19	1.9	0.8	7	-0.6	0.4	0.6	58	0.3	0.8	40	0.1	39	14	5	0	33	3	2	2
183	1.5	0.6	13	1.8	0.8	4	-0.2	0.3	0.7	59	0.2	0.6	40	0.2	46	7	5	1	36	2	1	1
184	2.1	0.7	19	2.5	0.8	10	-0.4	0.7	1.1	57	0.6	1.2	40	0.1	38	4	9	6	30	2	1	7
185	1.8	0.7	10	2.3	0.9	3	-0.5	0.3	0.7	59	0.2	0.7	40	0.1	49	4	4	2	37	1	0	2
186	2.0	0.0	1	2.0	1.0	6	0.0	0.0	0.3	60	0.3	0.8	39	-0.3	59	0	1	0	33	3	0	3
187	1.5	0.5	4	1.7	0.6	11	-0.2	0.1	0.4	59	0.5	0.8	40	-0.4	55	2	2	0	29	4	6	1
188	1.5	0.5	8	1.6	0.5	10	-0.1	0.2	0.5	59	0.4	0.7	40	-0.2	51	4	4	0	30	4	6	0
189	1.3	0.6	26	1.9	0.7	13	-0.7	0.6	0.7	57	0.6	1.0	40	-0.0	31	21	3	2	27	4	6	3
190	1.0	0.0	6	1.0	0.0	5	0.0	0.1	0.3	59	0.1	0.3	40	-0.0	53	6	0	0	35	5	0	0
191	1.2	0.5	25	2.0	0.8	13	-0.8	0.5	0.7	58	0.6	1.0	40	-0.1	33	20	4	1	27	4	5	4
192	1.2	0.4	6	1.6	0.7	7	-0.4	0.1	0.4	59	0.3	0.7	40	-0.2	53	5	1	0	33	4	2	1
193	1.6	0.5	5	1.7	0.9	3	-0.1	0.1	0.5	59	0.1	0.5	40	0.0	54	2	3	0	37	2	0	1
194	1.1	0.3	7	2.0	1.0	2	-0.9	0.1	0.4	58	0.1	0.5	40	0.0	51	6	1	0	38	1	0	1
195	1.1	0.2	16	1.0	0.0	5	0.1	0.3	0.5	57	0.1	0.3	40	0.2	41	15	1	0	35	5	0	0
196	1.4	0.6	39	1.8	0.7	19	-0.5	0.9	0.8	57	0.9	1.0	40	0.1	18	27	10	2	21	6	10	3
197	1.3	0.5	24	1.8	0.7	10	-0.5	0.5	0.7	58	0.4	0.9	40	0.1	34	19	4	1	30	4	4	2
198	1.3	0.4	4	1.0	0.0	2	0.3	0.1	0.3	60	0.0	0.2	40	0.0	56	3	1	0	38	2	0	0
199	1.0	0.0	3	1.0	0.0	2	0.0	0.1	0.2	59	0.0	0.2	40	0.0	56	3	0	0	38	2	0	0
200	2.0	0.8	20	1.8	0.8	19	0.2	0.7	1.1	57	0.9	1.1	40	-0.2	37	6	7	7	21	8	6	5
201	1.0	0.2	21	1.0	0.0	4	0.0	0.4	0.5	57	0.1	0.3	40	0.3	36	20	1	0	36	4	0	0
202	1.1	0.3	14	1.7	0.5	9	-0.6	0.3	0.5	57	0.4	0.7	40	-0.1	43	13	1	0	31	3	6	0
203	2.3	0.6	11	1.8	0.8	12	0.4	0.4	0.9	59	0.5	0.9	40	-0.1	48	1	6	4	28	5	4	3
204	1.4	0.7	20	1.9	0.7	14	-0.5	0.5	0.8	57	0.7	1.0	40	-0.2	37	13	5	2	26	4	7	3
205	2.2	0.8	33	2.5	0.6	21	-0.3	1.2	1.2	57	1.3	1.3	40	-0.1	24	9	10	14	19	1	9	11

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK: WORKERS MEAN	WORKERS SD	WORKERS N	SUPERVISORS MEAN	SUPERVISORS SD	SUPERVISORS N	D:W-S MEAN	ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS: WORKERS MEAN	WORKERS SD	WORKERS N	SUPERVISORS MEAN	SUPERVISORS SD	SUPERVISORS N	D:W-S MEAN	DISTRIBUTION OF WORKER RESPONSES: NONE	LOW	MED	HIGH	DISTRIBUTION OF SUPERVISOR RESPONSES: NONE	LOW	MED	HIGH
206	2.6	0.6	32	2.7	0.5	23	-0.1	1.5	1.4	57	1.5	1.4	40	-0.1	25	2	9	21	17	1	5	17
207	1.0	0.0	1	1.0	0.0	1	0.0	0.0	0.1	60	0.0	0.2	40	-0.0	59	1	0	0	39	1	0	0
208	1.6	0.6	22	2.1	0.8	12	-0.4	0.6	0.9	57	0.6	1.0	40	0.0	35	10	10	2	28	3	5	4
209	1.9	0.8	10	1.4	0.5	8	0.5	0.3	0.8	60	0.3	0.6	40	0.0	50	4	3	3	32	5	3	0
210	1.6	0.8	5	0.0	0.0	0	1.6	0.1	0.5	59	0.0	0.0	40	0.1	54	3	1	1	40	0	0	0
211	1.6	0.7	16	2.5	0.5	11	-0.9	0.4	0.8	57	0.7	1.1	40	-0.2	41	9	5	2	29	0	6	5
212	1.5	0.7	19	2.4	0.7	10	-0.9	0.5	0.8	57	0.6	1.1	40	-0.1	38	12	5	2	30	1	4	5
213	1.3	0.5	15	2.1	0.9	9	-0.8	0.4	0.6	57	0.5	1.0	40	-0.1	42	10	5	0	31	3	2	4
214	1.0	0.0	1	0.0	0.0	0	1.0	0.0	0.1	60	0.0	0.0	40	0.0	59	1	0	0	40	0	0	0
215	1.5	0.7	21	2.4	0.8	11	-0.8	0.6	0.8	58	0.6	1.1	40	-0.1	37	12	7	2	30	2	3	6
216	1.5	0.7	21	2.0	0.8	12	-0.5	0.6	0.8	56	0.6	1.0	40	-0.0	35	12	7	2	28	4	4	4
217	1.5	0.7	22	1.5	0.6	12	0.0	0.6	0.9	57	0.4	0.8	40	0.1	35	12	8	2	28	7	4	1
218	2.3	0.7	43	2.8	0.5	25	-0.5	1.7	1.2	57	1.7	1.4	40	-0.0	14	7	18	18	15	1	4	20
219	2.1	0.7	34	2.9	0.3	21	-0.8	1.3	1.2	56	1.5	1.5	40	-0.2	22	7	15	12	19	0	2	19
220	2.0	0.8	9	1.7	0.7	14	0.3	0.3	0.8	58	0.6	0.9	40	-0.3	49	3	3	3	26	6	6	2
221	1.6	0.6	23	1.6	0.8	19	-0.1	0.6	0.9	57	0.8	1.0	40	-0.1	34	12	9	2	21	11	4	4
222	1.3	0.5	7	2.0	0.6	5	-0.7	0.2	0.4	59	0.3	0.7	40	-0.1	52	5	2	0	35	1	3	1
223	1.0	0.0	3	2.0	0.0	1	-1.0	0.1	0.2	59	0.0	0.3	40	0.0	56	3	0	0	39	0	1	0
224	2.5	0.6	31	2.5	0.5	21	-0.0	1.3	1.3	57	1.3	1.3	40	0.0	26	2	13	16	19	0	11	10
225	2.5	0.5	2	2.3	0.4	4	0.3	0.1	0.5	59	0.2	0.7	40	-0.1	57	0	1	1	36	0	3	1
226	2.5	0.6	27	2.6	0.5	15	-0.1	1.2	1.3	58	1.0	1.3	40	0.2	31	2	10	15	25	0	6	9
227	1.4	0.7	16	2.5	0.8	6	-1.1	0.4	0.7	58	0.4	0.9	40	0.0	42	11	3	2	34	1	1	4
228	1.4	0.6	22	1.6	0.9	8	-0.3	0.5	0.8	57	0.3	0.8	40	0.2	35	16	4	2	32	5	1	2
229	2.2	0.6	16	2.3	0.4	8	-0.1	0.6	1.0	58	0.4	0.9	40	0.2	42	2	9	5	32	0	6	2
230	1.6	0.6	14	2.0	0.7	11	-0.4	0.4	0.7	58	0.5	1.0	40	-0.2	44	7	6	1	29	3	5	3
231	1.0	0.0	2	2.0	0.0	2	-1.0	0.0	0.2	59	0.1	0.4	40	-0.1	57	2	0	0	38	0	2	0
232	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	60	0.0	0.0	40	0.0	60	0	0	0	40	0	0	0
233	1.0	0.0	5	0.0	0.0	0	1.0	0.1	0.3	60	0.0	0.0	40	0.1	55	5	0	0	40	0	0	0
234	1.0	0.0	8	1.0	0.0	3	0.0	0.1	0.3	58	0.1	0.3	40	0.1	50	8	0	0	37	3	0	0
235	2.0	0.0	2	1.7	0.5	3	0.3	0.1	0.4	60	0.1	0.5	40	-0.1	58	0	2	0	37	1	2	0
236	2.7	0.4	41	2.8	0.5	25	-0.1	2.0	1.3	57	1.8	1.4	40	0.2	16	0	11	30	15	1	3	21
237	2.5	0.7	11	2.3	0.8	8	0.3	0.5	1.0	59	0.4	1.0	40	0.0	48	1	3	7	32	2	2	4
238	1.0	0.0	7	1.0	0.0	3	0.0	0.1	0.3	58	0.1	0.3	40	0.0	51	7	0	0	37	3	0	0
239	1.0	0.0	11	1.0	0.0	4	0.0	0.2	0.4	57	0.1	0.3	40	0.1	46	11	0	0	36	4	0	0
240	2.2	0.8	13	2.2	0.6	14	0.0	0.5	1.0	60	0.8	1.1	39	-0.3	47	3	4	6	25	1	9	4

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
241	2.0	0.7	9	1.8	0.7	11	0.2	0.3	0.8	60	0.5	0.9	40	-0.2	51	2	5	2	29	4	5	2
242	0.0	0.0	0	1.0	0.0	3	-1.0	0.0	0.0	60	0.1	0.3	40	-0.1	60	0	0	0	37	3	0	0
243	2.3	0.8	4	1.9	0.7	10	0.4	0.1	0.6	60	0.5	0.9	40	-0.3	56	1	1	2	30	3	5	2
244	2.3	0.4	4	2.3	0.7	6	-0.1	0.1	0.6	60	0.3	0.9	40	-0.2	56	0	3	1	34	1	2	3
245	1.7	0.5	7	1.9	0.(	7	-0.1	0.2	0.6	60	0.3	0.8	40	-0.1	53	2	5	0	33	2	4	1
246	2.4	0.7	7	2.3	0.8	12	0.2	0.3	0.8	60	0.7	1.1	39	-0.4	53	1	2	4	27	3	3	6
247	2.0	0.0	2	2.3	0.4	4	-0.3	0.1	0.4	60	0.2	0.7	40	-0.2	58	0	2	0	36	0	3	1
248	2.7	0.7	6	2.2	0.6	18	0.4	0.3	0.8	59	1.0	1.2	39	-0.8	53	1	0	5	21	2	10	6
249	2.2	0.7	6	2.3	0.8	15	-0.1	0.2	0.7	60	0.9	1.2	39	-0.7	54	1	3	2	24	3	5	7
250	3.0	0.0	2	2.4	0.7	10	0.6	0.1	0.5	60	0.6	1.1	39	-0.5	58	0	0	2	29	1	4	5
251	2.5	0.5	2	2.3	0.9	7	0.2	0.1	0.5	60	0.4	1.0	39	-0.3	58	0	1	1	32	2	1	4
252	2.2	0.4	10	2.1	0.5	22	0.1	0.4	0.8	59	1.2	1.1	39	-0.8	49	0	8	2	17	2	15	5
253	2.1	0.7	9	1.9	0.8	19	0.2	0.3	0.8	59	0.9	1.1	39	-0.6	50	2	4	3	20	6	8	5
254	1.9	0.8	10	1.6	0.7	22	0.3	0.3	0.8	58	0.9	1.0	39	-0.6	48	4	3	3	17	12	7	3
255	2.3	0.7	29	2.3	0.8	26	-0.0	1.2	1.3	56	1.6	1.3	39	-0.4	27	4	12	13	13	6	5	15
256	2.0	0.0	2	2.0	1.0	4	0.0	0.1	0.4	60	0.2	0.7	39	-0.1	58	0	2	0	35	2	0	2
257	0.0	0.0	0	1.5	0.5	2	-1.5	0.0	0.0	60	0.1	0.3	39	-0.1	60	0	0	0	37	1	1	0
258	1.7	0.5	3	1.3	0.4	4	0.4	0.1	0.4	60	0.1	0.4	39	-0.0	57	1	2	0	35	3	1	0
259	1.7	0.5	3	1.3	0.5	3	0.3	0.1	0.4	60	0.1	0.4	39	-0.0	57	1	2	0	36	2	1	0
260	1.8	0.4	4	1.5	0.5	4	0.3	0.1	0.5	59	0.2	0.5	39	-0.0	55	1	3	0	35	2	2	0
261	0.0	0.0	0	1.0	0.0	2	-1.0	0.0	0.0	60	0.1	0.2	39	-0.1	60	0	0	0	37	2	0	0
262	0.0	0.0	0	1.0	0.0	2	-1.0	0.0	0.0	60	0.1	0.2	39	-0.1	60	0	0	0	37	2	0	0
263	1.6	0.5	5	1.8	0.4	6	-0.2	0.1	0.5	58	0.3	0.7	40	-0.1	53	2	3	0	34	1	5	0
264	0.0	0.0	0	1.7	0.5	3	-1.7	0.0	0.0	60	0.1	0.5	40	-0.1	60	0	0	0	37	1	2	0
265	1.5	0.5	4	1.4	0.5	5	0.1	0.1	0.4	59	0.2	0.5	40	-0.1	55	2	2	0	35	3	2	0
266	0.0	0.0	0	1.5	0.5	4	-1.5	0.0	0.0	60	0.1	0.5	40	-0.1	60	0	0	0	36	2	2	0
267	1.9	0.7	10	1.8	0.4	11	0.1	0.3	0.8	59	0.5	0.8	40	-0.2	49	3	5	2	29	2	9	0
268	1.8	0.7	15	1.9	0.6	18	-0.1	0.5	0.9	58	0.9	1.1	40	-0.4	43	6	6	3	22	4	11	3
269	1.5	0.5	6	1.7	0.7	6	-0.2	0.1	0.5	60	0.3	0.7	40	-0.1	54	3	3	0	34	3	2	1
270	2.0	0.0	2	1.7	0.7	6	0.3	0.1	0.4	60	0.3	0.7	40	-0.2	58	0	2	0	34	3	2	1
271	1.0	0.0	1	1.2	0.4	5	-0.2	0.0	0.1	58	0.1	0.4	40	-0.1	57	1	0	0	35	4	1	0
272	1.7	0.5	3	1.7	0.5	3	0.0	0.1	0.4	60	0.1	0.5	40	-0.0	57	1	2	0	37	1	2	0
273	0.0	0.0	0	2.0	0.7	4	-2.0	0.0	0.0	59	0.2	0.6	40	-0.2	59	0	0	0	36	1	2	1
274	2.0	0.0	1	1.7	0.5	3	0.3	0.0	0.3	60	0.1	0.5	40	-0.1	59	0	1	0	37	1	2	0
275	2.0	0.0	1	1.0	0.0	2	1.0	0.0	0.3	60	0.0	0.2	40	-0.0	59	0	1	0	38	2	0	0

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
276	1.5	0.5	2	1.7	0.7	6	-0.2	0.0	0.3	60	0.3	0.7	40	-0.2	58	1	1	0	34	3	2	1
277	2.5	0.5	4	1.8	0.7	6	0.7	0.2	0.6	59	0.3	0.7	40	-0.1	55	0	2	2	34	2	3	1
278	2.4	0.5	11	1.9	0.9	11	0.5	0.4	0.9	60	0.5	1.0	40	-0.1	49	0	7	4	29	5	2	4
279	2.0	0.0	3	2.0	0.8	6	0.0	0.1	0.4	60	0.3	0.8	40	-0.2	57	0	3	0	34	2	2	2
280	3.0	0.0	1	1.5	0.9	4	1.5	0.0	0.4	60	0.1	0.5	40	-0.1	59	0	0	1	36	3	0	1
281	1.5	0.5	2	2.0	0.7	4	-0.5	0.0	0.3	60	0.2	0.6	40	-0.1	58	1	1	0	36	1	2	1
282	1.5	0.5	2	2.0	0.7	4	-0.5	0.0	0.3	60	0.2	0.6	40	-0.1	58	1	1	0	36	1	2	1
283	0.0	0.0	0	1.8	0.8	4	-1.8	0.0	0.0	60	0.2	0.6	40	-0.2	60	0	0	0	36	2	1	1
284	2.0	0.8	6	1.3	0.5	9	0.7	0.2	0.7	60	0.3	0.6	40	-0.1	54	2	2	2	31	6	3	0
285	2.3	0.4	8	1.8	0.6	9	0.5	0.3	0.8	59	0.4	0.8	40	-0.1	51	0	6	2	31	3	5	1
286	2.0	0.0	1	1.7	0.5	3	0.3	0.0	0.3	60	0.1	0.5	40	-0.1	59	0	1	0	37	1	2	0
287	2.0	0.0	1	1.3	0.4	4	0.8	0.0	0.3	60	0.1	0.4	40	-0.1	59	0	1	0	36	3	1	0
288	0.0	0.0	0	1.3	0.4	4	-1.3	0.0	0.0	60	0.1	0.4	40	-0.1	60	0	0	0	36	3	1	0
289	2.0	0.0	1	1.3	0.5	6	0.7	0.0	0.3	60	0.2	0.5	40	-0.2	59	0	1	0	34	4	2	0
290	2.0	0.6	5	1.7	0.5	9	0.3	0.2	0.6	60	0.4	0.7	40	-0.2	55	1	3	1	31	3	6	0
291	2.3	0.4	4	1.9	0.6	9	0.4	0.1	0.6	60	0.4	0.8	40	-0.3	56	0	3	1	31	2	6	1
292	2.6	0.5	5	1.7	0.7	9	0.9	0.2	0.7	60	0.4	0.8	40	-0.2	55	0	2	3	31	4	4	1
293	0.0	0.0	0	3.0	0.0	2	-3.0	0.0	0.0	60	0.1	0.7	40	-0.1	60	0	0	0	38	0	0	2
294	3.0	0.0	1	2.0	0.0	2	1.0	0.0	0.4	60	0.1	0.4	40	-0.0	59	0	0	1	38	0	2	0
295	2.0	0.7	21	2.0	0.7	17	-0.0	0.7	1.0	59	0.8	1.1	40	-0.2	38	5	12	4	23	4	9	4
296	2.3	0.7	35	2.4	0.5	27	-0.2	1.4	1.2	57	1.6	1.2	40	-0.2	22	4	17	14	13	0	15	12
297	2.6	0.5	45	2.7	0.5	32	-0.1	2.0	1.1	57	2.1	1.1	40	-0.1	12	1	18	26	8	0	11	21
298	2.5	0.6	50	2.5	0.6	37	0.0	2.3	0.9	55	2.3	0.9	40	-0.0	5	2	19	29	3	2	14	21
299	2.2	0.6	47	2.6	0.6	31	-0.4	1.8	1.0	56	2.0	1.2	40	-0.2	9	6	26	15	9	1	11	19
300	2.4	0.7	45	2.6	0.5	30	-0.2	1.9	1.1	56	2.0	1.2	39	-0.1	11	5	17	23	9	0	11	19
301	2.0	0.8	10	1.6	0.6	11	0.4	0.3	0.8	59	0.4	0.8	40	-0.1	49	3	4	3	29	5	5	1
302	2.5	0.5	36	2.5	0.6	29	0.0	1.6	1.3	56	1.8	1.2	40	-0.2	20	0	17	19	11	2	11	16
303	1.8	0.7	16	1.9	0.8	16	-0.1	0.5	0.9	60	0.8	1.1	40	-0.3	44	6	7	3	24	6	5	5
304	1.7	0.7	7	1.3	0.5	9	0.4	0.2	0.6	60	0.3	0.6	40	-0.1	53	3	3	1	31	6	3	0
305	2.2	0.7	25	2.3	0.9	22	-0.2	0.9	1.2	59	1.3	1.3	40	-0.4	34	5	11	9	18	6	3	13
306	1.8	0.8	19	2.0	0.9	28	-0.2	0.6	0.9	59	1.4	1.2	40	-0.8	40	8	7	4	12	11	7	10
307	2.0	0.7	32	2.5	0.7	29	-0.5	1.3	1.1	58	1.8	1.2	40	-0.7	26	8	15	9	11	3	9	17
308	2.0	0.6	27	1.9	0.8	31	0.1	0.9	1.1	57	1.5	1.0	40	-0.5	30	6	16	5	9	11	12	8
309	2.4	0.6	48	2.8	0.6	33	-0.3	2.1	1.0	56	2.3	1.1	39	-0.3	8	4	20	24	6	2	4	27
310	2.0	0.6	23	2.0	0.7	25	0.0	0.8	1.0	59	1.3	1.1	40	-0.5	36	4	15	4	15	6	13	6

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK: WORKERS MEAN	WORKERS SD	WORKERS N	SUPERVISORS MEAN	SUPERVISORS SD	SUPERVISORS N	D:W-S MEAN	ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS: WORKERS MEAN	WORKERS SD	WORKERS N	SUPERVISORS MEAN	SUPERVISORS SD	SUPERVISORS N	D:W-S MEAN	DISTRIBUTION OF WORKER RESPONSES: NONE	LOW	MED	HIGH	DISTRIBUTION OF SUPERVISOR RESPONSES: NONE	LOW	MED	HIGH
311	1.9	0.7	22	2.2	0.8	19	-0.2	0.7	1.0	58	1.0	1.2	40	-0.3	36	7	10	5	21	5	6	8
312	2.2	0.7	31	2.0	0.8	23	0.2	1.2	1.2	58	1.2	1.2	40	-0.0	27	5	15	11	17	6	10	7
313	2.0	0.7	27	2.2	0.7	30	-0.1	0.9	1.1	58	1.6	1.1	40	-0.7	31	7	12	8	10	5	15	10
314	1.7	0.5	6	1.5	0.6	13	0.2	0.2	0.5	58	0.5	0.8	40	-0.3	52	2	4	0	27	8	4	1
315	2.3	0.6	28	2.2	0.7	31	0.2	1.1	1.2	57	1.7	1.1	39	-0.6	29	2	15	11	8	5	16	10
316	2.1	0.7	18	2.1	0.7	22	-0.0	0.7	1.1	57	1.2	1.2	40	-0.5	39	4	8	6	18	4	11	7
317	2.2	0.8	19	2.1	0.7	32	0.1	0.7	1.1	59	1.7	1.1	40	-1.0	40	4	7	8	8	7	15	10
318	2.8	0.4	53	2.9	0.3	38	-0.1	2.6	0.7	56	2.8	0.7	40	-0.1	3	0	13	40	2	0	4	34
319	2.2	0.6	30	2.4	0.6	26	-0.2	1.2	1.2	56	1.5	1.2	40	-0.4	26	4	17	9	14	1	14	11
320	2.2	0.7	22	2.3	0.7	23	-0.1	0.8	1.1	58	1.3	1.2	40	-0.5	36	4	10	8	17	3	11	9
321	2.2	0.7	37	2.4	0.7	35	-0.1	1.5	1.2	56	2.1	1.0	39	-0.6	19	5	18	14	4	4	14	17
322	0.0	0.0	0	2.5	0.9	4	-2.5	0.0	0.0	59	0.3	0.8	40	-0.3	59	0	0	0	36	1	0	3
323	2.2	0.7	40	2.5	0.7	29	-0.3	1.6	1.1	56	1.8	1.2	40	-0.2	16	6	20	14	11	3	9	17
324	2.0	0.0	1	1.3	0.5	3	0.7	0.0	0.3	60	0.1	0.4	40	-0.1	59	0	1	0	37	2	1	0
325	2.4	0.5	10	1.9	0.7	16	0.5	0.4	0.9	59	0.8	1.0	40	-0.3	49	0	6	4	24	5	8	3
326	2.2	0.7	50	2.5	0.5	31	-0.4	1.9	0.9	56	2.0	1.2	40	-0.0	6	8	25	17	9	0	14	17
327	1.8	0.4	12	2.3	0.6	12	-0.5	0.4	0.7	58	0.7	1.1	40	-0.3	46	3	9	0	28	1	7	4
328	2.2	0.6	17	2.1	0.6	7	0.1	0.6	1.1	59	0.4	0.9	40	0.3	42	2	9	6	33	1	4	2
329	1.9	0.7	16	2.4	0.6	12	-0.5	0.5	0.9	59	0.7	1.2	39	-0.2	43	5	7	4	27	1	5	6
330	2.6	0.6	50	2.8	0.5	32	-0.2	2.4	0.9	55	2.3	1.2	40	0.1	5	2	15	33	8	2	2	28
331	2.1	0.8	48	2.5	0.7	30	-0.4	1.8	1.0	56	1.8	1.2	40	-0.1	8	12	20	16	10	4	8	18
332	2.2	0.7	33	2.1	0.7	24	0.0	1.3	1.2	56	1.3	1.2	40	-0.0	23	7	14	12	16	4	13	7
333	1.8	0.6	22	1.7	0.8	21	0.1	0.7	1.0	59	0.9	1.0	40	-0.2	37	7	12	3	19	11	5	5
334	1.8	0.7	15	1.7	0.8	28	0.1	0.5	0.9	58	1.2	1.0	40	-0.7	43	5	8	2	12	14	9	5
335	0.0	0.0	0	1.5	0.5	4	-1.5	0.0	0.0	60	0.1	0.5	40	-0.1	60	0	0	0	36	2	2	0
336	2.2	0.8	18	1.9	0.6	16	0.3	0.7	1.1	59	0.8	1.0	40	-0.1	41	4	7	7	24	4	10	2
337	2.2	0.7	19	2.2	0.7	20	-0.0	0.7	1.1	58	1.1	1.2	39	-0.4	39	4	8	7	19	3	10	7
338	2.0	0.7	28	2.0	0.7	30	-0.0	1.0	1.1	57	1.5	1.0	40	-0.5	29	7	15	6	10	7	16	7
339	2.6	0.6	30	2.3	0.7	23	0.3	1.4	1.3	57	1.3	1.2	40	0.1	27	1	11	18	17	4	9	10
340	2.1	0.3	7	1.6	0.6	15	0.5	0.3	0.7	58	0.6	0.9	40	-0.3	51	0	6	1	25	7	7	1
341	2.0	0.7	21	2.1	0.8	25	-0.0	0.8	1.1	57	1.3	1.2	40	-0.5	36	4	12	5	15	7	9	9
342	2.0	0.6	22	2.0	0.9	22	0.0	0.7	1.0	59	1.1	1.2	40	-0.4	37	4	14	4	18	6	6	8
343	2.1	0.7	33	2.1	0.8	28	-0.0	1.2	1.2	57	1.5	1.2	39	-0.3	24	7	16	10	11	7	11	10
344	2.1	0.5	11	2.1	0.7	14	0.0	0.4	0.8	59	0.7	1.1	40	-0.3	48	1	8	2	26	3	7	4
345	1.9	0.7	14	2.0	0.8	20	-0.1	0.5	0.9	59	1.0	1.2	40	-0.6	45	4	7	3	20	6	7	7

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
346	2.1	0.7	14	2.2	0.6	19	-0.1	0.5	1.0	57	1.0	1.2	40	-0.5	43	3	7	4	21	2	12	5
347	1.9	0.6	20	1.8	0.7	19	0.1	0.7	1.0	58	0.8	1.0	40	-0.2	38	5	12	3	21	7	9	3
348	1.8	0.7	8	1.6	0.5	14	0.1	0.2	0.6	59	0.6	0.8	40	-0.3	51	3	4	1	26	5	9	0
349	1.0	0.0	1	1.3	0.5	6	-0.3	0.0	0.1		0.2	0.5	40	-0.2	59	1	0	0	34	4	2	0
350	1.9	0.6	38	2.3	0.6	31	-0.4	1.3	1.0	57	1.8	1.1	40	-0.5	19	8	24	6	9	3	15	13
351	2.0	0.6	34	2.3	0.6	30	-0.4	1.2	1.1	57	1.8	1.2	40	-0.6	23	6	23	5	10	3	14	13
352	2.2	0.6	45	2.5	0.6	32	-0.3	1.8	1.1	57	2.0	1.2	40	-0.3	12	5	24	16	8	2	11	19
353	2.2	0.7	22	2.3	0.5	23	-0.0	0.8	1.2	58	1.3	1.2	39	-0.5	36	4	9	9	16	1	15	7
354	2.8	0.4	53	3.0	0.0	30	-0.2	2.8	0.5	54	2.4	1.2	38	0.4	1	0	9	44	8	0	0	30
355	1.8	0.6	10	2.1	0.7	14	-0.3	0.3	0.7	59	0.8	1.1	40	-0.4	49	3	6	1	26	3	6	5
356	2.2	0.8	30	2.5	0.5	28	-0.2	1.2	1.2	56	1.7	1.2	40	-0.5	26	6	11	13	12	0	15	13
357	2.6	0.5	11	2.4	0.5	12	0.2	0.5	1.0	60	0.7	1.1	40	-0.2	49	0	4	7	28	0	7	5
358	2.0	0.0	6	1.8	0.4	5	0.2	0.2	0.6	60	0.2	0.6	40	-0.0	54	0	[illegible]	0	35	1	4	0
359	1.9	0.6	20	2.1	0.6	17	-0.2	0.7	1.0	58	0.9	1.1	40	-0.2	38	4	13	3	23	2	11	4
360	1.9	0.8	27	1.9	0.9	16	-0.0	0.9	1.1	59	0.8	1.1	40	0.1	32	9	11	7	24	7	3	6
361	1.3	0.5	6	2.0	0.6	5	-0.7	0.1	0.4	58	0.3	0.7	40	-0.1	52	4	2	0	35	1	3	1
362	2.3	0.7	26	1.9	0.7	22	0.4	1.1	1.2	57	1.0	1.1	40	0.0	31	4	10	12	18	7	11	4
363	1.6	0.8	12	1.4	0.5	10	0.2	0.3	0.7	56	0.3	0.7	40	-0.0	44	7	3	2	30	6	4	0
364	2.2	0.7	35	2.1	0.9	17	0.1	1.4	1.2	55	0.9	1.2	40	0.5	20	7	15	13	23	6	4	7
365	0.0	0.0	0	0.0	0.0	0	0.0	0.0	0.0	60	0.0	0.0	40	0.0	60	0	0	0	40	0	0	0
366	2.5	0.6	35	2.3	0.7	28	0.2	1.6	1.3	56	1.6	1.2	40	-0.1	21	2	13	20	12	4	11	13
367	2.4	0.7	14	2.0	0.6	11	0.4	0.6	1.1	58	0.5	0.9	40	0.0	44	2	5	7	29	2	7	2
368	2.2	0.7	13	2.2	0.5	15	0.0	0.5	1.0	57	0.8	1.1	40	-0.3	44	2	6	5	25	1	10	4
369	2.0	0.0	1	1.8	0.9	6	0.2	0.0	0.3	60	0.3	0.7	40	-0.2	59	0	1	0	34	3	1	2
370	2.6	0.6	20	2.2	0.7	18	0.4	0.9	1.3	56	1.0	1.2	40	-0.1	36	1	5	14	22	3	8	7
371	1.9	0.6	12	1.7	0.6	15	0.3	0.4	0.8	58	0.6	0.9	40	-0.2	46	3	7	2	25	6	8	1
372	2.2	0.7	24	2.3	0.9	15	-0.1	0.9	1.2	57	0.9	1.2	39	0.1	33	4	11	9	24	4	3	8
373	1.9	0.6	17	2.1	0.8	20	-0.2	0.6	0.9	59	1.0	1.2	40	-0.5	42	4	10	3	20	5	8	7
374	2.0	0.8	45	2.5	0.6	26	-0.5	1.6	1.1	57	1.7	1.3	39	-0.1	12	13	19	13	13	2	9	15
375	2.4	0.7	51	2.6	0.6	27	-0.2	2.1	1.0	57	1.8	1.3	39	0.4	6	5	22	24	12	2	8	17
376	2.1	0.7	47	2.5	0.7	27	-0.4	1.7	1.1	58	1.7	1.3	39	0.0	11	10	21	16	12	3	8	16
377	2.1	0.7	14	1.9	0.8	19	0.2	0.5	1.0	57	1.0	1.1	38	-0.4	43	3	6	5	19	6	8	5
378	1.9	0.6	13	2.2	0.8	17	-0.3	0.4	0.8	60	0.9	1.2	40	-0.5	47	3	8	2	23	4	5	8
379	2.2	0.7	6	2.0	0.6	6	0.2	0.2	0.7	58	0.3	0.7	40	-0.1	52	1	3	2	34	1	4	1
380	1.7	0.7	30	2.3	0.7	26	-0.6	0.9	1.0	57	1.6	1.2	38	-0.7	27	12	14	4	12	4	10	12

	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
TASK	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
381	1.9	0.6	7	1.8	0.8	11	0.0	0.2	0.6	60	0.5	0.9	40	-0.3	53	2	4	1	29	5	3	3
382	2.4	0.5	5	2.0	0.9	7	0.4	0.2	0.7	60	0.4	0.9	39	-0.2	55	0	3	2	32	3	1	3
383	1.7	0.4	11	1.5	0.6	14	0.2	0.3	0.7	59	0.5	0.8	39	-0.2	48	3	8	0	25	8	5	1
384	2.0	0.6	5	1.8	0.8	13	0.2	0.2	0.6	59	0.6	1.0	40	-0.4	54	1	3	1	27	5	5	3
385	2.5	0.6	17	2.2	0.7	13	0.2	0.7	1.2	58	0.7	1.1	40	-0.0	41	1	7	9	27	2	6	5
386	2.6	0.8	5	1.9	0.6	12	0.7	0.2	0.8	58	0.6	1.0	39	-0.4	53	1	0	4	27	3	7	2
387	1.9	0.5	11	1.8	0.7	15	0.1	0.4	0.8	58	0.7	1.0	39	-0.3	47	2	8	1	24	5	8	2
388	2.0	0.7	30	2.0	0.6	22	-0.0	1.1	1.1	56	1.2	1.1	39	-0.1	26	7	16	7	17	4	13	5
389	2.2	0.6	39	2.2	0.7	30	0.0	1.5	1.2	57	1.7	1.1	38	-0.2	18	5	21	13	8	6	12	12
390	2.0	0.7	24	2.0	0.7	28	-0.0	0.8	1.1	57	1.4	1.1	40	-0.6	33	7	11	6	12	8	13	7
391	2.0	0.5	9	2.5	0.7	11	-0.5	0.3	0.7	59	0.7	1.1	40	-0.4	50	1	7	1	29	1	4	6
392	2.3	0.5	3	1.8	0.7	8	0.6	0.1	0.5	60	0.3	0.8	40	-0.2	57	0	2	1	32	3	4	1
393	2.5	0.5	2	2.2	0.7	5	0.3	0.1	0.5	60	0.3	0.8	40	-0.2	58	0	1	1	35	1	2	2
394	2.5	0.5	54	2.8	0.4	32	-0.3	2.5	0.6	55	2.3	1.2	40	0.2	1	1	23	30	8	0	6	26
395	2.1	0.6	44	2.4	0.6	28	-0.3	1.6	1.0	56	1.7	1.2	40	-0.1	12	6	28	10	12	1	14	13
396	2.7	0.5	51	3.0	0.0	33	-0.3	2.5	0.8	55	2.5	1.1	40	0.1	4	1	11	39	7	0	0	33
397	2.7	0.5	51	3.0	0.0	32	-0.3	2.5	0.8	55	2.5	1.2	39	0.0	4	0	17	34	7	0	0	32
398	2.3	0.4	4	1.6	0.7	7	0.7	0.1	0.6	60	0.3	0.7	40	-0.1	56	0	3	1	33	4	2	1
399	2.3	0.5	3	2.2	0.7	6	0.2	0.1	0.5	58	0.3	0.8	40	-0.2	55	0	2	1	34	1	3	2
400	2.2	0.7	22	2.0	0.8	28	0.2	0.8	1.1	60	1.4	1.1	40	-0.6	38	4	10	8	12	8	12	8
401	2.0	0.5	48	2.5	0.6	35	-0.5	1.8	0.8	55	2.2	1.0	40	-0.4	7	6	34	8	5	2	13	20
402	2.4	0.6	13	1.8	0.7	26	0.5	0.5	1.0	60	1.2	1.1	40	-0.7	47	1	6	6	14	9	12	5
403	2.0	0.8	30	1.9	0.8	30	0.1	1.1	1.1	57	1.4	1.0	40	-0.3	27	9	12	9	10	11	12	7
404	2.3	0.5	13	2.3	0.7	14	0.0	0.5	1.0	59	0.8	1.2	40	-0.3	46	0	9	4	26	2	6	6
405	2.7	0.5	12	2.5	0.5	14	0.2	0.6	1.1	58	0.9	1.2	40	-0.3	46	0	4	8	26	0	7	7
406	2.2	0.3	5	2.4	0.6	14	-0.2	0.2	0.7	59	0.8	1.2	40	-0.7	54	1	2	2	26	1	6	7
407	2.6	0.5	18	2.5	0.5	19	0.1	0.8	1.2	58	1.2	1.3	40	-0.4	40	0	7	11	21	0	9	10
408	2.0	0.0	1	2.5	0.5	4	-0.5	0.0	0.3	60	0.3	0.8	40	-0.2	59	0	1	0	36	0	2	2
409	1.0	0.0	1	2.0	0.7	9	-1.0	0.0	0.1	60	0.4	0.9	40	-0.4	59	1	0	0	31	2	5	2
410	2.6	0.5	14	2.5	0.5	18	0.1	0.6	1.1	59	1.1	1.3	40	-0.5	45	0	5	9	22	0	9	9
411	1.9	0.5	20	1.9	0.6	19	-0.0	0.6	1.0	59	0.9	1.1	40	-0.3	39	4	14	2	21	4	12	3
412	2.2	0.7	16	2.3	0.8	16	-0.1	0.5	1.0	59	0.9	1.2	40	-0.3	43	3	7	6	24	3	6	7
413	2.2	0.7	6	2.3	0.7	12	-0.1	0.2	0.7	60	0.7	1.1	40	-0.5	54	1	3	2	28	2	5	5
414	2.2	0.7	5	2.2	0.7	12	0.0	0.2	0.6	60	0.6	1.1	40	-0.5	55	1	2	2	28	2	6	4
415	1.9	0.6	9	2.2	0.7	16	-0.3	0.3	0.7	59	0.9	1.2	39	-0.6	50	2	6	1	23	3	7	6

	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK							ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS							DISTRIBUTION OF WORKER RESPONSES				DISTRIBUTION OF SUPERVISOR RESPONSES			
	WORKERS			SUPERVISORS			D:W-S	WORKERS			SUPERVISORS			D:W-S								
TASK	MEAN	SD	N	MEAN	SD	N	MEAN	MEAN	SD	N	MEAN	SD	N	MEAN	NONE	LOW	MED	HIGH	NONE	LOW	MED	HIGH
416	2.0	0.6	6	1.6	0.7	8	0.4	0.2	0.6	60	0.3	0.7	40	-0.1	54	1	4	1	32	4	3	1
417	2.0	1.0	4	1.9	0.9	16	0.1	0.1	0.6	59	0.8	1.1	40	-0.6	55	2	0	2	24	7	3	6
418	2.0	0.9	5	1.9	0.9	14	0.1	0.2	0.6	59	0.6	1.0	40	-0.5	54	2	1	2	26	7	2	5
419	2.4	0.6	12	2.5	0.5	8	-0.1	0.5	1.0	60	0.5	1.0	40	-0.0	48	1	5	6	32	0	4	4
420	2.1	0.6	14	2.3	0.8	18	-0.2	0.5	0.9	59	1.1	1.3	39	-0.6	45	2	9	3	21	[illegible]	5	9
421	2.0	0.8	17	2.1	0.8	18	-0.1	0.6	1.0	59	0.9	1.2	39	-0.4	42	5	7	5	21	5	7	6
422	2.5	0.8	6	2.3	0.5	10	0.2	0.3	0.8	60	0.6	1.0	40	-0.3	54	1	1	4	30	0	7	3
423	1.0	0.0	1	1.8	0.6	9	-0.8	0.0	0.1	60	0.4	0.8	40	-0.4	59	1	0	0	31	3	5	1
424	2.5	0.5	2	1.6	0.5	5	0.9	0.1	0.5	60	0.2	0.6	40	-0.1	58	0	1	1	35	2	3	0
425	3.0	0.0	2	1.9	0.6	8	1.1	0.1	0.5	60	0.4	0.8	40	-0.3	58	0	0	2	32	2	5	1
426	2.3	0.4	4	1.8	0.6	10	0.5	0.1	0.6	60	0.4	0.8	40	-0.3	56	0	3	1	30	3	6	1
427	2.5	0.7	13	1.8	0.6	10	0.7	0.5	1.1	59	0.4	0.8	40	0.1	46	2	3	8	30	3	6	1
428	2.2	0.7	19	2.3	0.7	18	-0.1	0.7	1.1	59	1.0	1.2	40	-0.3	40	3	9	7	22	2	9	7
429	2.0	0.0	3	1.5	0.8	6	0.5	0.1	0.4	60	0.2	0.6	40	-0.1	57	0	3	0	34	4	1	1
430	2.0	0.0	2	1.6	0.7	13	0.4	0.1	0.4	60	0.5	0.9	40	-0.5	58	0	2	0	27	7	4	2
431	2.3	0.6	10	2.1	0.8	18	0.2	0.4	0.9	59	0.9	1.2	40	-0.5	49	1	5	4	22	6	5	7
432	2.1	0.6	9	2.3	0.8	13	-0.2	0.3	0.8	59	0.8	1.2	40	-0.4	50	1	6	2	27	3	3	7
433	2.0	0.5	8	2.4	0.6	12	-0.4	0.3	0.7	59	0.7	1.2	40	-0.5	51	1	6	1	28	1	5	6
434	2.3	0.5	7	2.1	0.6	9	0.2	0.3	0.7	60	0.5	0.9	40	-0.2	53	0	5	2	31	1	6	2
435	2.1	0.7	24	2.4	0.6	22	-0.3	0.9	1.1	57	1.3	1.3	40	-0.4	33	4	13	7	18	1	11	10
436	2.0	0.8	3	1.0	0.0	1	1.0	0.1	0.5	60	0.0	0.2	40	0.1	57	1	1	1	39	1	0	0
437	2.7	0.5	3	2.1	0.8	10	0.6	0.1	0.6	60	0.5	1.0	40	-0.4	57	0	1	2	30	3	3	4
438	2.5	0.5	13	2.3	0.7	23	0.2	0.6	1.1	58	1.3	1.3	40	-0.8	45	0	6	7	17	4	8	11
439	2.4	0.6	20	2.4	0.6	20	0.1	0.8	1.2	58	1.2	1.3	40	-0.4	38	1	9	10	20	1	10	9
440	2.4	0.5	7	2.1	0.7	20	0.3	0.3	0.8	59	1.0	1.2	40	-0.8	52	0	4	3	20	4	10	6
441	2.0	0.0	1	1.5	0.5	2	0.5	0.0	0.3	60	0.1	0.3	40	-0.0	59	0	1	0	38	1	[illegible]	0
442	0.0	0.0	0	1.6	0.7	7	-1.6	0.0	0.0	60	0.3	0.7	40	-0.3	60	0	0	0	33	4	[illegible]	1
443	2.3	0.6	24	2.6	0.5	18	-0.3	0.9	1.2	58	1.2	1.3	39	-0.2	34	2	14	8	21	0	8	10
444	1.8	0.4	5	2.0	0.5	7	-0.2	0.1	0.5	60	0.3	0.8	40	-0.2	55	1	4	0	33	1	5	1
445	2.4	0.6	24	2.5	0.6	24	-0.2	1.0	1.2	57	1.5	1.3	40	-0.5	33	2	11	11	16	1	9	14
446	2.0	0.0	1	1.9	0.7	10	0.1	0.0	0.3	60	0.5	0.9	40	-0.4	59	0	1	0	30	3	5	2
447	2.1	0.7	17	2.3	0.8	20	-0.2	0.6	1.0	60	1.1	1.3	40	-0.6	43	4	8	5	20	4	6	10
448	2.2	0.6	13	1.9	0.7	18	0.3	0.5	1.0	57	0.9	1.1	40	-0.4	44	1	8	4	22	5	9	4
449	2.0	0.6	6	2.2	0.6	9	-0.2	0.2	0.6	59	0.5	1.0	40	-0.3	53	1	4	1	31	1	5	3
450	2.0	0.9	7	1.9	0.8	15	0.1	0.2	0.7	59	0.7	1.0	40	-0.5	52	3	1	3	25	6	5	4

TASK	RESPONDENTS CITING WORKER PERFORMANCE OF A TASK: WORKERS MEAN	WORKERS SD	WORKERS N	SUPERVISORS MEAN	SUPERVISORS SD	SUPERVISORS N	D:W-S MEAN	ALL RESPONDENTS, INCLUDING NON-PERFORMANCE CITATIONS: WORKERS MEAN	WORKERS SD	WORKERS N	SUPERVISORS MEAN	SUPERVISORS SD	SUPERVISORS N	D:W-S MEAN	DISTRIBUTION OF WORKER RESPONSES: NONE	LOW	MED	HIGH	DISTRIBUTION OF SUPERVISOR RESPONSES: NONE	LOW	MED	HIGH
451	2.3	0.8	10	1.8	0.8	18	0.5	0.4	0.9	59	0.8	1.1	39	-0.5	49	2	3	5	21	7	7	4
452	2.4	0.7	24	2.5	0.5	19	-0.1	1.0	1.3	58	1.2	1.3	39	-0.2	34	3	9	12	20	0	10	9
453	3.0	0.0	2	2.0	0.0	2	1.0	0.1	0.5	60	0.1	0.4	40	0.0	58	0	0	2	38	0	2	0
454	2.0	0.0	1	1.3	0.4	4	0.8	0.0	0.3	60	0.1	0.4	40	-0.1	59	0	1	0	36	3	1	0
455	2.0	0.0	1	1.6	0.5	5	0.4	0.0	0.3	60	0.2	0.6	40	-0.2	59	0	1	0	35	2	3	0
456	0.0	0.0	0	1.7	0.7	6	-1.7	0.0	0.0	60	0.3	0.7	40	-0.3	60	0	0	0	34	3	2	1
457	2.4	0.6	18	2.3	0.5	9	0.1	0.7	1.2	60	0.5	1.0	40	0.2	42	1	8	9	31	0	6	3
458	2.1	0.7	9	1.8	0.4	6	0.3	0.3	0.8	60	0.3	0.7	40	0.0	51	2	4	3	34	1	5	0
459	2.5	0.5	2	1.8	0.7	5	0.7	0.1	0.5	60	0.2	0.7	40	-0.1	58	0	1	1	35	2	2	1
460	2.3	0.6	28	2.6	0.6	18	-0.3	1.0	1.2	60	1.1	1.3	40	-0.1	32	2	17	9	22	1	6	11
461	2.2	0.7	27	2.6	0.7	22	-0.4	1.0	1.2	58	1.4	1.4	40	-0.4	31	4	14	9	18	2	5	15
462	2.2	0.7	33	2.5	0.7	24	-0.3	1.3	1.2	59	1.5	1.4	40	-0.3	26	4	17	12	16	3	5	16
463	2.3	0.5	27	2.5	0.7	23	-0.2	1.1	1.2	59	1.4	1.3	40	-0.4	32	1	17	9	17	2	8	13
464	2.0	0.7	19	2.1	0.6	13	-0.1	0.6	1.0	60	0.7	1.0	39	-0.1	41	5	9	5	26	2	8	3
465	2.5	0.5	13	2.3	0.9	17	0.2	0.5	1.0	60	1.0	1.3	40	-0.4	47	0	7	6	23	5	2	10
466	2.7	0.6	34	2.7	0.5	25	-0.0	1.5	1.4	59	1.7	1.4	40	-0.2	25	2	7	25	15	1	5	19
467	2.4	0.6	26	2.6	0.7	21	-0.2	1.1	1.3	59	1.4	1.4	39	-0.4	33	2	12	12	18	2	4	15
468	2.3	0.8	20	2.3	0.7	11	-0.0	0.8	1.2	60	0.6	1.1	40	0.1	40	5	5	10	29	2	4	5
469	1.8	0.7	12	1.9	0.8	8	-0.0	0.4	0.8	59	0.4	0.8	40	-0.0	47	4	6	2	32	3	3	2
470	1.5	0.5	4	1.9	0.6	7	-0.4	0.1	0.4	60	0.3	0.8	40	-0.2	56	2	2	0	33	2	4	1
471	2.0	0.8	3	1.6	0.5	8	0.4	0.1	0.5	60	0.3	0.7	39	-0.2	57	1	1	1	31	3	5	0
472	2.6	0.5	10	2.4	0.6	14	0.2	0.4	1.0	60	0.8	1.2	39	-0.4	50	0	4	6	25	1	7	6
473	2.0	0.0	4	1.3	0.5	6	0.7	0.1	0.5	60	0.2	0.5	39	-0.1	56	0	4	0	33	4	2	0
474	2.0	0.5	8	1.8	0.7	14	0.2	0.3	0.7	59	0.6	0.9	39	-0.4	51	1	6	1	25	5	7	2

TOTALS: 21542 1302 2790 2172 — 12268 1415 2783 2423

Table C-3

Extent Task Is Part of the Job (Q6)[a]

Question 6: Extent Task Is Part of the Position (Workers)

Answer this question so as to give the best description you can of what you do in your present job as a Business Data Programmer. For each task statement, rate how significant a part of your job it is. Consider and weigh its importance, frequency of occurrence, relevance, and any other factor which you think determines to what extent the task is part of your position. In your own mind, combine these factors into a single rating of how significant a part of your job it represents.

Categories and Values of the Response Scale:

0 = Definintely not a part of my job
1 = Under unusual circumstances may be a minor part of my job
2 = (not defined)
3 = (not defined)
4 = A substantial part of my job
5 = (not defined)
6 = (not defined)
7 = Almost significant part of my job

Each of the 13 columns of Table C-3 is identified below.

Column 33: Average (mean) of worker ratings.

Column 34: Standard deviation showing degree of response variability.

Column 35: Number of workers who rated the task 0-7.

Columns 36 through 43: Number of surveyed workers using each level of the scale.

Column 44: Percent of surveyed workers who rated the task as part of their job. That is, they used a rating level other than "0."

[a]Question 6 was answered by workers in Group 2 for all tasks in the inventory.

Table C-3-continued

Column 45: Percent of surveyed workers who rated the task as at least a "substantial part" of their job. That is, they used a rating level of "4" or higher, indicating it was a reasonably significant part of the job. (This would seem to be a useful indicator of a task's actual relevance to an occupation, serving to differentiate between two occupations where workers in both may at times perform the same task.)

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 3: EXTENT TASK IS PART OF THE JOB (Q6)

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
1	0.97	1.32	60	32	12	8	3	4	1	0	0	46.7	8.3
2	2.68	1.69	60	8	8	10	13	16	1	3	1	86.7	35.0
3	3.55	2.08	60	7	2	9	12	13	5	4	8	88.3	50.0
4	3.15	2.26	60	9	8	9	9	9	3	6	7	85.0	41.7
5	2.23	2.08	60	18	9	9	5	11	2	4	2	70.0	31.7
6	1.73	1.76	60	18	15	11	6	5	3	0	2	70.0	16.7
7	2.15	1.86	60	14	14	10	3	13	3	2	1	76.7	31.7
8	1.17	1.32	60	24	15	15	2	2	1	1	0	60.0	6.7
9	1.57	1.66	60	21	13	12	5	6	1	1	1	65.0	15.0
10	0.88	1.25	60	34	12	5	5	4	0	0	0	43.3	6.7
11	1.02	1.44	60	33	12	4	5	4	2	0	0	45.0	10.0
12	0.32	0.81	60	49	7	1	2	1	0	0	0	18.3	1.7
13	0.43	0.88	60	44	10	4	0	2	0	0	0	26.7	3.3
14	1.64	1.67	59	19	14	11	6	5	1	3	0	67.8	15.3
15	1.28	1.52	60	26	11	14	3	2	3	1	0	56.7	10.0
16	0.10	0.35	60	55	4	1	0	0	0	0	0	8.3	0.0
17	0.52	1.23	60	45	9	2	1	2	0	0	1	25.0	5.0
18	0.46	0.87	59	43	9	3	4	0	0	0	0	27.1	0.0
19	1.45	1.82	60	26	14	5	6	4	3	0	2	56.7	15.0
20	1.28	1.79	60	30	13	4	3	7	1	0	2	50.0	16.7
21	0.23	0.96	60	53	5	1	0	0	0	0	1	11.7	1.7
22	0.12	0.37	60	54	5	1	0	0	0	0	0	10.0	0.0
23	0.72	1.24	60	47	4	7	3	4	0	0	0	30.0	6.7
24	0.12	0.32	59	52	7	0	0	0	0	0	0	11.9	0.0
25	0.25	0.81	59	53	1	2	2	1	0	0	0	10.2	1.7
26	1.85	2.02	60	22	11	8	5	9	0	2	3	63.3	23.3
27	1.88	1.87	60	20	12	6	8	9	2	2	1	66.7	23.3
28	1.30	1.68	60	27	12	11	3	4	1	0	2	55.0	11.7
29	0.65	1.08	60	38	13	4	2	3	0	0	0	36.7	5.0
30	0.10	0.35	60	55	4	1	0	0	0	0	0	8.3	0.0

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
31	0.77	1.02	60	33	14	8	4	1	0	0	0	45.0	1.7
32	0.23	0.88	60	53	5	0	1	0	0	1	0	11.7	1.7
33	0.13	0.39	60	53	6	1	0	0	0	0	0	11.7	0.0
34	0.82	1.28	60	39	6	6	5	4	0	0	0	35.0	6.7
35	0.45	1.09	60	47	6	4	1	1	0	1	0	21.7	3.3
36	2.00	1.99	60	22	6	10	6	10	1	4	1	63.3	26.7
37	2.05	2.16	60	20	11	9	5	6	3	2	4	66.7	25.0
38	0.57	1.38	60	46	7	2	2	1	0	1	1	23.3	5.0
39	1.67	1.76	60	24	7	10	10	5	2	1	1	60.0	15.0
40	0.43	1.07	60	49	3	5	0	2	1	0	0	18.3	5.0
41	0.45	1.13	60	48	6	1	3	1	0	1	0	20.0	3.3
42	2.32	2.39	60	25	3	5	8	5	6	4	4	58.3	31.7
43	0.78	1.58	60	43	6	4	1	2	3	0	1	28.3	10.0
44	0.17	0.73	60	56	2	0	0	2	0	0	0	6.7	3.3
45	0.90	1.42	60	37	9	4	5	4	0	1	0	38.3	8.3
46	0.13	0.59	60	56	2	1	0	1	0	0	0	6.7	1.7
47	1.90	2.03	60	21	11	8	8	5	2	2	3	65.0	20.0
48	0.17	0.93	60	57	1	1	0	0	0	0	1	5.0	1.7
49	0.92	1.66	60	43	2	4	3	6	1	0	1	28.3	13.3
50	0.07	0.31	60	57	2	1	0	0	0	0	0	5.0	0.0
51	0.37	1.11	60	51	4	2	1	0	1	1	0	15.0	3.3
52	0.23	0.69	60	52	5	0	3	0	0	0	0	13.3	0.0
53	0.35	0.87	60	49	6	1	3	1	0	0	0	18.3	1.7
54	0.60	1.20	60	43	7	6	1	2	0	1	0	28.3	5.0
55	0.40	0.97	60	49	3	5	2	0	1	0	0	18.3	1.7
56	0.08	0.38	60	57	1	2	0	0	0	0	0	5.0	0.0
57	0.07	0.25	60	56	4	0	0	0	0	0	0	6.7	0.0
58	0.22	0.55	60	50	8	1	1	0	0	0	0	16.7	0.0
59	1.64	1.84	59	25	6	11	7	7	0	1	2	57.6	16.9
60	0.80	1.44	60	42	3	8	2	3	1	1	0	30.0	8.3
61	1.97	2.05	60	23	6	10	6	8	2	3	2	61.7	25.0
62	0.03	0.26	60	59	0	1	0	0	0	0	0	1.7	0.0
63	0.03	0.18	60	58	2	0	0	0	0	0	0	3.3	0.0
64	0.27	1.00	60	54	3	0	1	1	0	1	0	10.0	3.3
65	3.68	2.50	60	12	2	5	9	9	5	5	13	80.0	53.3

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
66	0.22	0.71	60	53	4	1	1	1	0	0	0	11.7	1.7
67	0.08	0.53	60	58	1	0	0	1	0	0	0	3.3	1.7
68	1.28	1.63	60	26	14	10	3	5	0	0	2	56.7	11.7
69	0.48	0.99	60	44	9	4	0	3	0	0	0	26.7	5.0
70	0.07	0.40	60	58	1	0	1	0	0	0	0	3.3	0.0
71	0.17	0.66	60	55	3	0	1	1	0	0	0	8.3	1.7
72	0.20	0.98	60	56	2	0	1	0	0	0	1	6.7	1.7
73	0.17	0.52	60	54	2	4	0	0	0	0	0	10.0	0.0
74	0.08	0.42	60	57	2	0	1	0	0	0	0	5.0	0.0
75	0.0	0.0	60	60	0	0	0	0	0	0	0	0.0	0.0
76	0.05	0.22	59	56	3	0	0	0	0	0	0	5.1	0.0
77	1.78	1.81	59	23	6	9	11	5	3	1	1	61.0	16.9
78	2.12	1.96	60	19	7	10	9	8	2	4	1	68.3	25.0
79	1.20	1.47	60	26	15	10	3	3	2	1	0	56.7	10.0
80	1.41	1.63	58	25	10	10	5	4	3	1	0	56.9	13.8
81	2.54	2.05	59	13	8	8	14	6	4	2	4	78.0	27.1
82	2.53	2.27	60	13	12	10	7	8	0	3	7	78.3	30.0
83	2.58	2.32	60	16	8	9	8	6	2	6	5	73.3	31.7
84	2.80	2.36	60	14	8	8	8	9	1	5	7	76.7	36.7
85	2.47	2.11	60	15	10	8	6	9	6	4	2	75.0	35.0
86	2.93	2.31	59	16	3	6	8	11	3	9	3	72.9	44.1
87	2.97	2.36	59	14	7	6	6	9	4	9	4	76.3	44.1
88	1.08	1.65	59	35	7	5	6	4	0	1	1	40.7	10.2
89	1.12	1.60	60	33	9	8	2	6	1	0	1	45.0	13.3
90	1.23	1.51	60	26	14	10	4	4	1	0	1	56.7	10.0
91	1.73	1.93	60	25	9	6	7	7	3	2	1	58.3	21.7
92	1.25	1.70	60	32	10	2	7	7	1	0	1	46.7	15.0
93	1.53	1.67	60	24	11	7	11	3	2	2	0	60.0	11.7
94	1.05	1.33	60	29	15	6	5	4	1	0	0	51.7	8.3
95	0.27	0.79	60	52	4	1	2	1	0	0	0	13.3	1.7
96	0.45	1.01	60	46	8	2	1	3	0	0	0	23.3	5.0
97	0.48	1.02	60	44	11	0	2	3	0	0	0	26.7	5.0
98	0.47	1.22	60	50	3	1	3	2	0	1	0	16.7	5.0
99	0.50	1.22	60	48	5	1	3	2	0	1	0	20.0	5.0
100	1.46	1.59	59	25	10	7	8	8	0	1	0	57.6	15.3

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
101	2.70	2.04	60	13	9	5	8	14	3	8	0	78.3	41.7
102	2.62	1.96	60	10	10	11	9	11	3	3	3	83.3	33.3
103	0.53	1.02	60	44	6	6	2	2	0	0	0	26.7	3.3
104	1.69	1.94	59	25	9	7	5	8	1	3	1	57.6	22.0
105	1.08	1.72	60	33	12	7	2	2	0	3	1	45.0	10.0
106	1.40	1.54	60	23	11	16	4	4	0	1	1	61.7	10.0
107	1.50	1.73	60	27	8	7	9	7	0	1	1	55.0	15.0
108	3.23	2.20	60	9	6	10	7	11	4	8	5	85.0	46.7
109	0.83	1.38	60	40	5	6	5	2	2	0	0	33.3	6.7
110	0.87	1.33	60	36	10	5	6	2	0	1	0	40.0	5.0
111	0.75	1.01	60	33	15	7	4	1	0	0	0	45.0	1.7
112	1.75	2.03	60	26	8	7	5	9	0	3	2	56.7	23.3
113	1.32	1.59	60	31	6	6	8	8	1	0	0	48.3	15.0
114	0.53	1.13	60	46	5	3	4	1	1	0	0	23.3	3.3
115	3.10	2.17	60	9	10	6	5	15	6	4	5	85.0	50.0
116	2.08	2.00	60	21	5	11	8	7	3	4	1	65.0	25.0
117	1.62	1.72	60	22	13	8	6	8	0	3	0	63.3	18.3
118	0.35	0.81	60	48	6	4	1	1	0	0	0	20.0	1.7
119	1.27	1.52	60	27	10	12	6	3	1	0	1	55.0	8.3
120	1.33	1.61	60	26	12	9	8	2	1	1	1	56.7	8.3
121	0.47	1.14	59	43	12	1	1	1	0	0	1	27.1	3.4
122	0.43	1.17	60	48	7	1	2	1	0	0	1	20.0	3.3
123	0.32	0.88	60	50	6	1	2	0	1	0	0	16.7	1.7
124	1.37	1.47	60	25	10	11	8	5	0	1	0	58.3	10.0
125	2.02	1.96	60	21	7	11	2	14	1	3	1	65.0	31.7
126	2.00	1.92	59	20	11	2	10	10	4	1	1	66.1	27.1
127	0.95	1.61	60	36	11	6	0	4	1	1	1	40.0	11.7
128	2.67	2.26	60	15	7	10	7	7	4	6	4	75.0	35.0
129	1.57	1.83	60	25	10	9	7	5	1	1	2	58.3	15.0
130	1.12	1.73	60	36	6	7	3	6	0	0	2	40.0	13.3
131	0.62	1.23	60	41	10	5	2	1	0	0	1	31.7	3.3
132	1.68	1.86	60	27	4	9	8	9	0	2	1	55.0	20.0
133	0.33	1.04	60	50	6	2	1	0	0	0	1	16.7	1.7
134	0.62	1.31	60	46	1	8	3	1	0	0	1	23.3	3.3
135	0.52	1.18	60	44	9	4	1	1	0	0	1	26.7	3.3

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
136	0.18	0.59	60	52	7	0	0	1	0	0	0	13.3	1.7
137	0.53	1.24	60	46	6	3	3	1	0	0	1	23.3	3.3
138	0.46	1.12	59	46	5	6	1	0	0	0	1	22.0	1.7
139	0.41	1.08	59	46	8	3	1	0	0	0	1	22.0	1.7
140	0.46	0.87	59	43	8	6	1	1	0	0	0	27.1	1.7
141	1.42	1.78	59	27	9	11	3	5	1	2	1	54.2	15.3
142	0.25	0.79	59	52	3	1	2	1	0	0	0	11.9	1.7
143	2.92	2.05	60	9	9	11	4	13	7	4	3	85.0	45.0
144	1.37	1.54	60	24	11	14	6	3	0	1	1	60.0	8.3
145	2.02	2.05	60	18	13	9	7	5	1	5	2	70.0	21.7
146	2.48	2.57	60	22	7	7	4	3	4	7	6	63.3	33.3
147	2.75	2.34	60	13	12	7	6	5	5	8	4	78.3	36.7
148	1.30	1.48	60	25	12	11	7	4	0	0	1	58.3	8.3
149	1.23	1.62	60	31	7	9	8	3	0	1	1	48.3	8.3
150	1.35	1.70	60	28	10	8	8	3	0	2	1	53.3	10.0
151	0.28	0.93	60	52	4	2	1	0	0	1	0	13.3	1.7
152	1.22	1.82	60	30	15	4	4	3	1	0	3	50.0	11.7
153	0.50	1.24	60	46	8	2	2	0	1	0	1	23.3	3.3
154	0.70	1.39	60	38	14	4	2	0	0	0	2	36.7	3.3
155	2.27	1.65	60	12	9	10	17	7	2	3	0	80.0	20.0
156	1.88	1.86	60	18	12	10	12	2	0	5	1	70.0	13.3
157	0.61	1.21	59	39	13	3	2	1	0	0	1	33.9	3.4
158	0.31	0.93	58	50	3	3	0	1	1	0	0	13.8	3.4
159	1.31	1.77	59	30	11	4	4	7	1	1	1	49.2	16.9
160	0.90	1.43	59	34	13	4	4	2	0	2	0	42.4	6.8
161	0.66	1.56	59	44	8	2	0	2	0	2	1	25.4	8.5
162	0.64	1.45	59	43	9	1	3	0	0	3	0	27.1	5.1
163	1.22	1.67	59	29	15	2	4	6	1	2	0	50.8	15.3
164	0.41	0.89	59	45	9	1	3	1	0	0	0	23.7	1.7
165	0.79	1.20	58	34	11	9	0	3	1	0	0	41.4	6.9
166	0.47	1.18	58	48	3	2	1	3	1	0	0	17.2	6.9
167	0.88	1.28	59	33	11	9	3	2	0	1	0	44.1	5.1
168	1.20	1.41	59	27	10	12	5	4	0	1	0	54.2	8.5
169	0.64	1.04	59	38	11	4	5	1	0	0	0	35.6	1.7
170	1.31	1.63	59	25	16	6	5	4	0	3	0	57.6	11.9

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
171	2.25	2.09	59	17	10	7	8	8	4	2	3	71.2	28.8
172	1.90	1.87	59	19	10	10	8	7	2	1	2	67.8	20.3
173	1.15	1.60	59	32	9	6	4	7	0	0	1	45.8	13.6
174	2.31	2.07	58	16	6	12	9	8	2	0	5	72.4	25.9
175	1.60	1.90	58	25	8	9	8	3	1	2	2	56.9	13.8
176	1.53	1.95	60	27	10	8	7	2	2	1	3	55.0	13.3
177	2.00	1.86	60	17	10	10	14	4	1	1	3	71.7	15.0
178	1.88	2.27	60	25	10	7	5	3	2	4	4	58.3	21.7
179	0.40	1.08	60	49	3	7	0	0	0	0	1	18.3	1.7
180	0.83	1.52	60	41	6	4	4	3	1	0	1	31.7	8.3
181	1.05	1.76	60	35	12	2	6	2	0	0	3	41.7	8.3
182	0.70	1.32	60	39	12	4	1	3	0	0	1	35.0	6.7
183	0.62	1.47	60	44	10	1	1	2	0	0	2	26.7	6.7
184	1.55	1.67	60	24	11	6	10	7	1	0	1	60.0	15.0
185	0.87	1.44	60	37	10	5	4	2	0	2	0	38.3	6.7
186	0.28	0.98	60	53	3	2	0	1	0	1	0	11.7	3.3
187	0.58	1.48	60	50	1	3	1	2	1	2	0	16.7	8.3
188	0.55	1.32	60	47	5	3	2	1	0	2	0	21.7	5.0
189	0.98	1.38	60	32	14	4	5	3	2	0	0	46.7	8.3
190	0.50	1.09	60	42	12	4	1	0	0	0	1	30.0	1.7
191	0.93	1.53	60	36	10	5	5	2	0	1	1	40.0	6.7
192	0.52	1.07	60	40	15	3	1	0	0	0	1	33.3	1.7
193	0.45	1.33	60	51	3	2	1	0	2	0	1	15.0	5.0
194	0.43	1.02	60	42	16	0	1	0	0	0	1	30.0	1.7
195	0.97	1.30	60	27	20	7	4	0	1	0	1	55.0	3.3
196	2.18	1.51	60	9	13	12	15	8	2	0	1	85.0	18.3
197	0.72	1.43	60	42	8	3	3	2	1	0	1	30.0	6.7
198	0.25	0.89	60	52	6	0	1	0	0	1	0	13.3	1.7
199	0.23	0.96	60	53	5	1	0	0	0	0	1	11.7	1.7
200	1.18	1.72	60	31	11	9	3	1	2	2	1	48.3	10.0
201	0.73	1.06	60	32	20	3	3	1	1	0	0	46.7	3.3
202	0.93	1.08	60	23	26	6	4	0	0	1	0	61.7	1.7
203	1.03	1.77	60	38	7	5	4	2	0	3	1	36.7	10.0
204	1.12	1.50	60	29	14	7	5	3	1	0	1	51.7	8.3
205	2.43	2.55	60	21	9	5	7	5	1	3	9	65.0	30.0

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
206	3.12	2.67	60	16	7	5	6	6	4	4	12	73.3	43.3
207	0.15	0.44	60	53	5	2	0	0	0	0	0	11.7	0.0
208	1.32	1.88	60	31	11	5	5	2	3	1	2	48.3	13.3
209	0.50	1.43	60	50	3	3	1	1	0	0	2	16.7	5.0
210	0.15	0.91	60	57	2	0	0	0	0	0	1	5.0	1.7
211	0.92	1.45	60	35	11	6	4	2	1	0	1	41.7	6.7
212	1.05	1.58	60	33	11	7	4	1	3	0	1	45.0	8.3
213	0.77	1.16	60	36	11	7	4	1	1	0	0	40.0	3.3
214	0.15	0.60	60	55	3	1	0	1	0	0	0	8.3	1.7
215	1.13	1.56	60	32	9	8	5	4	1	0	1	46.7	10.0
216	1.32	1.72	60	29	9	11	4	2	3	1	1	51.7	11.7
217	1.17	1.65	60	32	12	3	4	7	1	0	1	46.7	15.0
218	3.07	2.21	60	9	11	5	7	14	4	4	6	85.0	46.7
219	2.70	2.28	60	14	8	9	9	6	5	3	6	76.7	33.3
220	0.95	1.62	60	38	7	7	2	3	1	1	1	36.7	10.0
221	0.83	1.34	60	33	18	2	3	3	0	0	1	45.0	6.7
222	0.52	1.23	60	46	7	2	3	1	0	0	1	23.3	3.3
223	0.17	0.97	60	58	0	0	1	0	0	0	1	3.3	1.7
224	2.23	2.10	60	17	10	9	7	10	2	0	5	71.7	28.3
225	0.17	0.92	60	56	3	0	0	0	0	0	1	6.7	1.7
226	1.95	1.90	59	16	16	5	11	6	0	3	2	72.9	18.6
227	0.57	1.05	60	42	10	2	4	2	0	0	0	30.0	3.3
228	0.62	1.27	60	42	10	2	4	1	0	0	1	30.0	3.3
229	1.47	1.87	60	29	10	4	6	7	1	2	1	51.7	18.3
230	0.62	1.29	60	43	9	1	5	1	0	0	1	28.3	3.3
231	0.15	0.44	60	53	5	2	0	0	0	0	0	11.7	0.0
232	0.13	0.50	60	55	3	1	1	0	0	0	0	8.3	0.0
233	0.10	0.54	60	57	2	0	0	1	0	0	0	5.0	1.7
234	0.15	0.51	60	54	4	1	1	0	0	0	0	10.0	0.0
235	0.37	1.29	59	52	3	0	2	0	0	1	1	11.9	3.4
236	3.97	2.52	60	9	3	7	7	9	3	5	17	85.0	56.7
237	1.81	2.51	59	33	4	4	3	4	3	1	7	44.1	25.4
238	0.27	0.89	60	51	7	0	1	0	0	1	0	15.0	1.7
239	0.38	0.73	60	43	14	0	3	0	0	0	0	28.3	0.0
240	0.98	1.68	60	36	12	2	4	3	1	0	2	40.0	10.0

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
241	0.95	1.86	60	42	6	2	3	3	1	0	3	30.0	11.7
242	0.25	0.91	60	55	1	1	0	3	0	0	0	8.3	5.0
243	0.57	1.23	60	47	3	4	2	3	1	0	0	21.7	6.7
244	0.68	1.26	60	44	4	2	7	3	0	0	0	26.7	5.0
245	0.65	1.15	60	42	7	3	6	2	0	0	0	30.0	3.3
246	1.07	1.57	60	37	6	2	8	5	2	0	0	38.3	11.7
247	0.08	0.42	60	57	2	0	1	0	0	0	0	5.0	0.0
248	0.93	1.60	60	40	6	4	2	5	2	1	0	33.3	13.3
249	0.48	1.30	60	49	4	3	1	1	1	0	1	18.3	5.0
250	0.32	0.72	60	48	7	3	2	0	0	0	0	20.0	0.0
251	0.32	0.85	59	50	3	3	2	1	0	0	0	15.3	1.7
252	1.00	1.46	60	37	5	6	6	5	1	0	0	38.3	10.0
253	0.93	1.60	60	39	7	4	4	3	2	0	1	35.0	10.0
254	1.00	1.47	60	36	8	4	5	6	1	0	0	40.0	11.7
255	3.05	2.72	60	18	4	7	8	5	1	3	14	70.0	38.3
256	0.65	1.41	60	46	4	2	4	3	0	0	1	23.3	6.7
257	0.15	0.63	60	56	1	2	0	1	0	0	0	6.7	1.7
258	0.17	0.49	60	53	4	3	0	0	0	0	0	11.7	0.0
259	0.38	0.84	60	48	4	5	3	0	0	0	0	20.0	0.0
260	0.33	1.01	60	50	7	0	1	1	0	1	0	16.7	3.3
261	0.12	0.45	60	55	4	0	1	0	0	0	0	8.3	0.0
262	0.23	0.78	60	54	2	1	2	1	0	0	0	10.0	1.7
263	0.52	1.15	60	45	8	2	3	1	0	1	0	25.0	3.3
264	0.23	0.69	60	52	5	0	3	0	0	0	0	13.3	0.0
265	0.40	0.99	60	48	7	1	1	3	0	0	0	20.0	5.0
266	0.20	0.68	60	53	5	0	1	1	0	0	0	11.7	1.7
267	0.95	1.42	59	35	8	7	4	4	0	1	0	40.7	8.5
268	1.62	1.84	60	28	6	6	8	7	3	2	0	53.3	20.0
269	1.00	1.65	60	38	8	1	7	4	0	1	1	36.7	10.0
270	0.58	1.05	60	42	9	2	6	1	0	0	0	30.0	1.7
271	0.20	0.57	60	52	5	2	1	0	0	0	0	13.3	0.0
272	0.15	0.51	59	54	1	4	0	0	0	0	0	8.5	0.0
273	0.17	0.92	59	55	3	0	0	0	0	0	1	6.8	1.7
274	0.15	0.51	60	54	4	1	1	0	0	0	0	10.0	0.0
275	0.08	0.33	60	56	3	1	0	0	0	0	0	6.7	0.0

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
276	0.43	1.02	60	48	5	2	4	0	1	0	0	20.0	1.7
277	0.95	1.49	60	36	10	2	8	3	0	0	1	40.0	6.7
278	1.10	1.78	60	36	9	2	7	3	0	1	2	40.0	10.0
279	0.50	1.02	60	43	11	2	2	1	1	0	0	28.3	3.3
280	0.35	0.79	60	47	8	3	1	1	0	0	0	21.7	1.7
281	0.28	0.66	60	48	9	1	2	0	0	0	0	20.0	0.0
282	0.35	0.83	60	48	7	2	2	1	0	0	0	20.0	1.7
283	0.17	0.49	60	53	4	3	0	0	0	0	0	11.7	0.0
284	0.75	1.21	60	37	11	7	1	3	1	0	0	38.3	6.7
285	0.85	1.51	60	38	11	3	3	2	2	0	1	36.7	8.3
286	0.32	0.92	60	52	3	1	2	2	0	0	0	13.3	3.3
287	0.32	0.90	60	50	6	2	0	1	1	0	0	16.7	3.3
288	0.10	0.35	60	55	4	1	0	0	0	0	0	8.3	0.0
289	0.30	0.90	60	51	5	2	0	1	1	0	0	15.0	3.3
290	0.73	1.34	60	41	9	2	2	5	1	0	0	31.7	10.0
291	0.98	1.68	60	38	8	3	5	4	0	0	2	36.7	10.0
292	0.70	1.22	60	39	12	2	2	5	0	0	0	35.0	8.3
293	0.22	0.78	60	54	3	1	0	2	0	0	0	10.0	3.3
294	0.30	0.76	60	49	7	2	1	1	0	0	0	18.3	1.7
295	1.17	1.67	60	33	7	9	5	4	0	0	2	45.0	10.0
296	3.25	2.08	60	8	6	8	7	18	5	1	7	86.7	51.7
297	4.15	2.08	60	4	6	2	6	14	10	5	11	93.3	70.0
298	4.28	2.18	60	5	3	5	7	12	5	11	12	91.7	66.7
299	4.05	2.00	60	2	5	6	10	16	7	1	13	96.7	61.7
300	4.22	1.93	60	3	3	3	11	17	6	6	11	95.0	66.7
301	1.80	2.29	60	27	8	9	4	3	2	1	6	55.0	20.0
302	3.50	2.07	60	6	5	9	9	13	7	4	7	90.0	51.7
303	1.95	2.04	60	22	8	9	9	3	4	3	2	63.3	20.0
304	1.17	1.46	60	26	16	9	4	3	1	0	1	56.7	8.3
305	2.43	2.40	60	21	6	7	6	6	6	2	6	65.0	33.3
306	2.02	2.00	60	18	12	9	8	5	4	1	3	70.0	21.7
307	2.70	2.67	60	23	6	2	3	7	7	4	8	61.7	43.3
308	2.15	2.13	60	17	13	5	13	5	1	0	6	71.7	26.0
309	4.88	1.93	60	1	1	5	7	18	1	5	22	98.3	76.7
310	2.58	2.58	60	22	8	2	4	8	3	7	6	63.3	40.0

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
311	2.23	2.42	60	20	15	2	3	10	1	2	7	66.7	33.3
312	2.88	2.06	59	9	6	9	11	12	3	1	6	84.7	37.3
313	3.32	2.19	60	10	5	6	9	11	8	6	5	83.3	50.0
314	1.10	1.69	60	34	9	8	3	1	3	1	1	43.3	10.0
315	2.63	2.17	60	15	6	10	8	8	5	5	3	75.0	35.0
316	2.03	2.14	60	21	11	6	7	5	5	2	3	65.0	25.0
317	2.17	1.96	59	17	8	8	14	5	3	1	3	71.2	20.3
318	5.52	1.88	60	1	2	1	6	9	4	6	31	98.3	83.3
319	3.18	2.45	60	11	8	10	4	8	4	6	9	81.7	45.0
320	2.72	2.39	60	16	9	3	10	10	2	2	8	73.3	36.7
321	3.13	2.34	60	12	6	5	12	10	3	3	9	80.0	41.7
322	0.82	1.81	60	45	4	4	2	1	0	1	3	25.0	8.3
323	3.35	2.23	60	8	5	7	16	9	3	1	11	86.7	40.0
324	0.65	1.70	60	49	3	2	1	2	0	0	3	18.3	8.3
325	1.43	2.08	60	30	12	5	4	2	2	1	4	50.0	15.0
326	4.07	2.07	59	4	2	6	14	10	6	5	12	93.2	55.9
327	1.37	2.00	60	33	7	7	4	3	2	1	3	45.0	15.0
328	1.85	2.37	59	25	9	11	4	1	0	1	8	57.6	16.9
329	1.67	2.31	60	31	8	5	3	5	0	3	5	48.3	21.7
330	3.40	1.89	60	1	2	2	5	9	8	4	29	98.3	83.3
331	4.22	2.24	60	4	3	8	9	11	4	4	17	93.3	60.0
332	2.65	2.08	60	11	11	10	5	12	5	2	4	81.7	38.3
333	1.93	2.11	60	20	15	5	6	6	3	1	4	66.7	23.3
334	1.72	1.98	60	28	7	2	9	9	2	2	1	53.3	23.3
335	0.49	1.27	59	48	4	1	4	1	0	0	1	18.6	3.4
336	1.13	1.64	60	31	13	6	4	1	4	0	1	48.3	10.0
337	1.92	1.89	59	18	13	8	6	9	2	1	2	69.5	23.7
338	2.70	2.18	60	13	6	11	12	7	2	3	6	78.3	30.0
339	3.14	2.34	59	11	7	7	7	12	4	2	9	81.4	45.8
340	1.47	1.86	60	28	11	4	7	7	0	1	2	53.3	16.7
341	1.80	1.80	60	17	16	8	9	7	0	0	3	71.7	16.7
342	1.90	1.91	60	18	13	10	7	7	1	1	3	70.0	20.0
343	2.28	1.94	60	13	12	12	6	9	3	3	2	78.3	28.3
344	1.23	1.56	60	27	15	6	5	5	1	0	1	55.0	11.7
345	1.48	1.61	60	21	15	11	6	4	1	1	1	65.0	11.7

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
346	1.10	1.60	60	32	13	4	3	6	1	0	1	46.7	13.3
347	1.72	1.64	60	20	10	11	10	6	2	0	1	66.7	15.0
348	1.22	1.42	60	30	12	4	8	3	2	0	1	50.0	10.0
349	0.58	1.13	60	40	11	7	1	0	0	0	1	33.3	1.7
350	3.60	1.75	60	2	4	9	15	17	4	2	7	96.7	50.0
351	3.52	1.79	60	2	6	7	19	11	7	1	7	96.7	43.3
352	3.88	1.96	60	2	5	8	13	10	8	5	9	96.7	53.3
353	2.27	1.97	60	16	8	12	7	8	5	2	2	73.3	28.3
354	5.40	1.73	60	0	2	2	5	11	6	9	25	100.0	85.0
355	1.75	1.84	60	20	14	8	7	5	4	0	2	66.7	18.3
356	3.08	2.04	60	9	5	8	15	10	3	6	4	85.0	38.3
357	1.68	2.04	60	25	10	8	8	3	1	1	4	58.3	15.0
358	0.82	1.40	60	39	6	9	2	3	0	0	1	35.0	6.7
359	1.33	1.70	60	26	15	8	2	5	2	1	1	56.7	15.0
360	1.83	2.14	60	25	11	5	3	7	4	3	2	58.3	26.7
361	0.95	1.69	60	36	11	6	3	1	0	0	3	40.0	6.7
362	2.32	1.90	60	13	10	10	14	6	1	4	2	78.3	21.7
363	0.68	1.42	60	43	8	3	0	5	0	0	1	28.3	10.0
364	3.10	2.22	60	9	9	7	9	12	3	4	7	85.0	43.3
365	0.35	1.05	60	51	4	2	1	1	0	1	0	15.0	3.3
366	3.68	1.95	60	4	5	7	9	19	4	5	7	93.3	58.3
367	1.83	1.75	60	19	11	11	5	11	1	1	1	68.3	23.3
368	1.65	2.13	60	31	6	3	7	6	3	1	3	48.3	21.7
369	0.50	1.02	60	43	11	2	2	1	1	0	0	28.3	3.3
370	2.17	2.51	60	23	10	8	4	2	2	3	8	61.7	25.0
371	1.15	1.71	60	32	12	5	4	4	1	0	2	46.7	11.7
372	1.63	2.11	60	31	6	3	7	7	2	1	3	48.3	21.7
373	1.90	2.04	60	24	6	9	7	8	2	1	3	60.0	23.3
374	3.25	1.85	60	2	8	12	15	13	1	2	7	96.7	38.3
375	4.42	1.99	60	2	2	7	10	10	9	6	14	96.7	65.0
376	3.85	1.77	60	0	5	10	13	12	8	5	7	100.0	53.3
377	1.42	1.98	60	32	9	1	9	4	2	0	3	46.7	15.0
378	1.75	2.06	60	22	13	10	5	3	1	2	4	63.3	16.7
379	0.75	1.36	60	39	9	7	2	1	1	0	1	35.0	5.0
380	2.38	1.94	60	13	10	9	12	9	2	2	3	78.3	26.7

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
381	1.05	1.32	60	27	17	8	5	1	1	1	0	55.0	5.0
382	0.95	1.32	60	32	12	8	6	0	1	1	0	46.7	3.3
383	1.20	1.55	60	27	16	6	4	5	1	0	1	55.0	11.7
384	0.75	1.18	60	38	9	6	4	3	0	0	0	36.7	5.0
385	1.53	2.05	60	33	5	4	4	8	3	1	2	45.0	23.3
386	0.53	1.07	60	43	9	5	0	2	1	0	0	28.3	5.0
387	0.97	1.54	60	35	12	3	5	2	1	2	0	41.7	8.3
388	2.12	1.93	60	12	18	10	6	7	2	2	3	80.0	23.3
389	2.62	1.93	60	9	11	10	13	7	4	3	3	85.0	28.3
390	2.13	1.64	60	12	11	13	12	8	2	1	1	80.0	20.0
391	1.02	1.26	60	30	12	8	8	1	1	0	0	50.0	3.3
392	0.68	1.10	60	39	8	8	4	0	1	0	0	35.0	1.7
393	0.45	1.09	60	48	5	3	1	2	1	0	0	20.0	5.0
394	4.82	1.69	60	0	2	5	3	18	11	6	15	100.0	83.3
395	4.38	1.66	60	0	1	8	10	16	7	9	9	100.0	68.3
396	5.27	1.67	60	0	2	2	5	11	9	11	20	100.0	85.0
397	5.23	1.85	60	1	2	3	4	10	8	10	22	98.3	83.3
398	0.65	1.14	60	40	9	7	1	2	1	0	0	33.3	5.0
399	0.83	1.60	60	43	4	4	3	4	0	1	1	28.3	10.0
400	2.07	2.18	60	25	3	7	10	8	1	2	4	58.3	25.0
401	3.68	1.95	60	2	4	14	10	13	4	4	9	96.7	50.0
402	1.45	1.76	60	27	12	5	6	5	3	2	0	55.0	16.7
403	2.45	1.56	60	7	8	17	17	6	1	3	1	88.3	18.3
404	0.88	1.20	60	32	14	7	3	4	0	0	0	46.7	6.7
405	1.18	1.49	60	31	8	7	9	4	0	1	0	48.3	8.3
406	0.77	1.16	60	37	9	8	3	3	0	0	0	38.3	5.0
407	2.20	2.15	60	19	9	8	8	7	3	2	4	68.3	26.7
408	0.45	1.22	58	49	2	3	0	3	0	1	0	15.5	6.9
409	0.31	0.85	59	50	4	3	0	2	0	0	0	15.3	3.4
410	1.47	1.76	60	27	9	8	8	5	0	2	1	55.0	13.3
411	1.97	1.70	60	16	11	11	11	5	4	2	0	73.3	18.3
412	1.55	1.84	60	28	8	5	8	7	2	1	1	53.3	18.3
413	0.93	1.45	59	36	9	3	6	4	0	1	0	39.0	8.5
414	0.98	1.48	60	34	12	4	4	4	1	1	0	43.3	10.0
415	1.08	1.38	60	30	11	9	6	3	0	1	0	50.0	6.7

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY								% PART OF JOB	% SIG PART
				0	1	2	3	4	5	6	7		
416	0.95	1.59	60	38	7	5	5	3	0	1	1	36.7	8.3
417	0.65	1.31	60	44	6	4	1	3	2	0	0	26.7	8.3
418	0.50	1.09	60	45	8	3	1	2	1	0	0	25.0	5.0
419	1.18	1.65	60	31	11	7	4	3	3	0	1	48.3	11.7
420	1.83	1.82	60	22	7	11	7	7	5	0	1	63.3	21.7
421	2.25	1.91	60	15	11	8	7	13	3	1	2	75.0	31.7
422	1.12	1.74	60	36	8	4	4	3	4	0	1	40.0	13.3
423	0.33	0.77	60	47	9	2	1	1	0	0	0	21.7	1.7
424	0.37	0.98	60	50	4	3	1	1	1	0	0	16.7	3.3
425	0.75	1.64	60	45	4	5	1	1	1	2	1	25.0	8.3
426	1.05	1.67	58	36	6	5	5	2	2	2	0	37.9	10.3
427	1.32	1.63	60	26	13	10	5	2	1	3	0	56.7	10.0
428	2.00	2.07	60	18	15	7	6	6	2	3	3	70.0	23.3
429	0.43	0.99	60	48	4	4	2	2	0	0	0	20.0	3.3
430	0.75	1.39	60	41	6	7	2	3	0	0	1	31.7	6.7
431	1.37	1.81	60	34	5	2	7	10	0	2	0	43.3	20.0
432	1.35	1.73	60	33	3	7	9	5	1	2	0	45.0	13.3
433	1.29	1.74	59	35	1	6	10	4	1	2	0	40.7	11.9
434	1.40	1.86	60	35	2	4	9	5	3	2	0	41.7	16.7
435	2.61	1.72	59	10	6	9	17	11	1	5	0	83.1	28.8
436	0.80	1.44	60	43	2	6	4	4	0	1	0	28.3	8.3
437	1.03	1.61	60	35	10	6	1	5	1	2	0	41.7	13.3
438	2.22	1.85	60	17	7	10	7	13	3	3	0	71.7	31.7
439	2.03	1.81	60	17	12	7	7	13	1	3	0	71.7	28.3
440	1.92	1.81	60	20	8	9	11	8	1	2	1	66.7	20.0
441	0.32	0.96	60	51	4	3	1	0	0	1	0	15.0	1.7
442	0.48	1.19	58	45	7	3	0	1	1	1	0	22.4	5.2
443	2.63	2.04	60	14	7	7	8	15	4	2	3	76.7	40.0
444	0.75	1.37	60	39	11	4	2	1	2	1	0	35.0	6.7
445	2.62	2.02	60	14	7	7	9	14	2	6	1	76.7	38.3
446	0.85	1.36	60	36	10	9	0	3	1	1	0	40.0	8.3
447	2.12	2.14	60	22	7	7	6	10	3	2	3	63.3	30.0
448	1.30	1.59	60	28	12	6	5	7	1	1	0	53.3	15.0
449	0.87	1.51	60	40	6	5	4	3	0	2	0	33.3	8.3
450	0.67	1.14	60	40	9	5	3	3	0	0	0	33.3	5.0

TASK	MEAN	SD	N	NUMBER OF RESPONSES PER CATEGORY 0	1	2	3	4	5	6	7	% PART OF JOB	% SIG PART
451	0.92	1.33	60	34	10	9	3	3	0	1	0	43.3	6.7
452	1.93	2.00	60	20	11	9	6	9	0	2	3	66.7	23.3
453	0.50	1.01	60	44	9	2	3	2	0	0	0	26.7	3.3
454	0.32	0.74	60	47	10	1	1	1	0	0	0	21.7	1.7
455	0.28	0.63	60	48	8	3	1	0	0	0	0	20.0	0.0
456	0.37	0.82	60	48	5	4	3	0	0	0	0	20.0	0.0
457	1.25	2.05	60	35	10	4	2	2	2	2	3	41.7	15.0
458	0.87	1.44	60	36	12	4	4	2	1	0	1	40.0	6.7
459	0.53	1.20	60	44	10	2	1	1	1	1	0	26.7	5.0
460	1.83	1.70	60	18	11	10	13	3	3	1	1	70.0	13.3
461	2.00	1.70	59	15	11	11	9	10	1	1	1	74.6	22.0
462	2.35	1.76	60	12	8	13	10	13	1	1	2	80.0	28.3
463	2.32	1.86	60	14	8	11	10	12	1	2	2	76.7	28.3
464	1.60	1.81	60	25	9	9	7	6	1	2	1	58.3	16.7
465	1.62	1.96	60	30	5	5	7	8	2	2	1	50.0	21.7
466	2.72	2.19	60	14	9	6	7	9	8	4	3	76.7	40.0
467	2.48	2.15	60	16	8	7	10	8	5	2	4	73.3	31.7
468	1.57	2.06	60	29	8	8	5	3	2	2	3	51.7	16.7
469	1.57	1.86	60	27	7	10	7	3	3	2	1	55.0	15.0
470	1.42	1.93	60	32	8	2	9	4	1	3	1	46.7	15.0
471	1.08	1.79	60	37	8	3	5	4	0	1	2	38.3	11.7
472	1.28	2.05	60	37	5	5	4	3	0	4	2	38.3	15.0
473	0.73	1.58	60	46	4	2	1	4	1	2	0	23.3	11.7
474	0.97	1.76	60	42	5	2	2	4	3	2	0	30.0	15.0
TOTALS:				15527	3736	2525	2216	2070	673	645	977		

Table C-4

Frequency of Task Performance (Q3 and Q4)[a]

Question 3: Frequency of Performance (Workers)

How often have you been performing each of the activities done by you (as checked in Question 1)?

Categories and Values of the Response Scale:

1 = Have done, but don't normally do (0+).
2 = Less than once a year (Y-).
3 = Once a year (1Y).
4 = Once a month (1M).
5 = Once a week (1W).
6 = Once a day (1D).
7 = Several times each work day (D+).

} on the average, over the last several months

Question 4: Frequency of Performance (Supervisors)

From your experience as a supervisor of one or more Business Data Programmers, judge about how often a typical Business Data Programmer in your operation should perform each of the activities you checked (in Question 2).

Categories and Values of the Response Scale: Identical to those of Question 3.

Each of the 27 columns of Table C-4 is identified below.

Column 46: Average (median) of worker ratings, considering only those who checked (Question 1) that the task was performed.

Column 47: Quartile deviation showing degree of response variability.

Column 48: Number of workers rating the task (Question 3).

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[a]Questions 3 and 4 were answered only for those tasks checked on Q1 and Q2.

Table C-4-continued

Columns 49, 50 and 51:	Average, quartile deviation, and number of supervisors rating the task (Question 4), considering only those who checked (Question 2) that the task should be performed.
Column 52:	Difference between worker and supervisor average ratings (Column 46 minus Column 49).
Column 53 through 60:	Number of workers using each level of the frequency scale. Column 53 (None) is the complement of the number of workers checking the task on Question 1, as recorded in Column 1 on Table C-1.
Column 61:	Percent of workers who do the task (Question 1), but report it performed less frequently than once a year (combining scale categories Y- and 0+).
Column 62:	Percent of workers who do the task (Question 1), and report it performed once a week or more often (combining scale categories 1W, 1D, and D+).
Columns 63 through 72:	Same as Columns 53 through 62, but for supervisors' ratings. Column 63 (None) is the complement of that portion of Column 8 (Table C-1) represented by the 40 supervisors in Group 2.

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 4: FREQUENCY OF TASK PERFORMANCE
(Q3 & Q4)

	ACTUAL WORKER FREQUENCY			SUPERVISOR FREQUENCY DESIRE				DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE										DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY									
TASK	MDN	Q	N	MDN	Q	N	DIF-S	NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
1	3.9	0.5	7	3.7	1.2	18	0.2	53	1	0	1	4	0	1	0	14.3	14.3	22	4	1	3	6	1	0	3	27.8	22.2
2	4.0	0.5	35	3.8	0.6	27	0.2	25	1	1	6	18	7	1	1	5.7	25.7	13	2	0	7	13	2	1	2	7.4	18.5
3	4.7	0.6	41	4.7	0.8	28	-0.0	19	0	1	2	14	17	4	3	2.4	58.5	11	0	0	2	10	9	3	4	0.0	57.1
4	4.2	0.5	39	4.4	0.6	32	-0.2	21	0	0	4	22	10	3	0	0.0	33.3	8	0	0	2	15	11	1	3	0.0	46.9
5	4.2	0.4	22	4.5	1.2	22	-0.3	37	0	0	0	16	5	0	1	0.0	27.3	18	4	0	3	4	6	5	0	18.2	50.0
6	4.1	0.4	21	4.1	0.8	15	-0.0	39	3	0	0	13	4	0	1	14.3	23.8	25	1	1	2	6	3	1	1	13.3	33.3
7	4.4	0.5	26	4.8	0.7	24	-0.5	34	0	1	0	14	10	0	1	3.8	42.3	16	1	0	1	7	9	3	3	4.2	62.5
8	3.0	0.4	15	3.7	0.6	19	-0.6	45	1	1	10	2	0	0	1	13.3	6.7	21	0	2	6	9	0	2	0	10.5	10.5
9	4.1	0.4	16	4.6	0.6	16	-0.6	44	1	1	1	9	1	3	0	12.5	25.0	24	1	0	1	5	8	0	1	6.3	56.3
10	3.3	0.6	5	3.3	1.3	12	0.0	55	0	1	2	2	0	0	0	20.0	0.0	28	3	0	4	4	1	0	0	25.0	8.3
11	3.1	0.6	12	3.9	0.8	17	-0.8	48	1	2	5	4	0	0	0	25.0	0.0	23	2	1	3	7	2	2	0	17.6	23.5
12	3.0	0.3	2	3.6	0.7	15	-0.6	58	0	0	2	0	0	0	0	0.0	0.0	25	0	0	7	5	3	0	0	0.0	20.0
13	1.5	1.3	4	2.8	1.0	8	-1.3	56	2	0	1	1	0	0	0	50.0	0.0	31	3	0	4	1	0	0	0	37.5	0.0
14	3.8	0.7	20	3.9	0.9	18	-0.1	39	1	0	7	8	4	0	0	5.0	20.0	22	1	0	6	5	4	2	0	5.6	33.3
15	2.8	1.0	12	2.9	0.7	22	-0.1	47	4	0	6	1	0	0	1	33.3	8.3	18	3	4	10	3	1	0	1	31.8	9.1
16	3.0	0.3	1	3.3	0.6	5	-0.3	59	0	0	1	0	0	0	0	0.0	0.0	35	1	0	2	2	0	0	0	20.0	0.0
17	4.3	0.4	3	3.9	1.5	12	0.4	57	0	0	0	2	1	0	0	0.0	33.3	28	3	0	1	5	3	0	0	25.0	25.0
18	3.0	0.8	3	3.9	1.5	11	-0.9	57	0	1	1	1	0	0	0	33.3	0.0	29	3	0	0	6	2	0	0	27.3	18.2
19	4.1	0.5	14	5.5	0.8	20	-1.4	46	0	0	2	8	3	0	1	0.0	28.6	20	1	0	1	3	5	8	2	5.0	75.0
20	4.0	0.6	14	4.1	0.5	16	-0.1	46	1	0	3	6	4	0	0	7.1	28.6	23	3	0	0	8	5	0	0	18.8	31.3
21	0.0	0.0	0	2.5	1.4	10	-2.5	60	0	0	0	0	0	0	0	0.0	0.0	29	4	1	0	5	0	0	0	50.0	0.0
22	0.0	0.0	0	3.0	1.1	7	-3.0	60	0	0	0	0	0	0	0	0.0	0.0	33	1	2	1	2	1	0	0	42.9	14.3
23	4.0	1.2	8	4.1	0.7	15	-0.1	51	0	0	3	2	1	2	0	0.0	37.5	24	2	1	0	7	3	2	0	20.0	33.3
24	2.0	0.3	1	2.0	0.8	10	0.0	59	0	1	0	0	0	0	0	99.9	0.0	30	3	4	1	1	1	0	0	70.0	10.0
25	0.0	0.0	0	2.7	1.2	9	-2.7	60	0	0	0	0	0	0	0	0.0	0.0	31	4	0	3	1	1	0	0	44.4	11.1
26	4.7	0.5	22	5.0	1.2	17	-0.3	38	0	0	0	9	12	1	0	0.0	59.1	22	2	0	1	5	1	6	2	11.8	52.9
27	3.8	0.5	24	3.7	0.7	21	0.1	35	2	1	5	15	2	0	0	12.5	4.2	17	1	2	6	9	3	0	0	14.3	14.3
28	3.2	0.5	12	4.0	0.8	12	-0.8	48	1	0	7	4	0	0	0	8.3	0.0	28	1	0	3	4	4	0	0	8.3	33.3
29	3.0	0.0	1	2.7	0.8	12	0.3	59	0	0	1	0	0	0	0	0.0	0.0	28	3	2	6	1	0	0	0	41.7	0.0
30	3.0	0.3	1	4.5	1.5	12	-1.5	59	0	0	1	0	0	0	0	0.0	0.0	28	1	0	3	2	1	3	2	8.3	50.0

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
31	3.8	0.8	12	4.4	0.9	13	-0.6	48	1	1	3	4	3	0	0	16.7	25.0	26	1	1	1	4	3	3	0	15.4	46.2
32	0.0	0.0	0	2.3	2.3	9	-2.3	59	0	0	0	0	0	0	0	0.0	0.0	31	3	2	0	1	0	2	1	55.6	33.3
33	3.0	0.3	1	2.2	1.5	8	0.8	59	0	0	1	0	0	0	0	0.0	0.0	32	2	3	0	1	1	1	0	62.5	25.0
34	4.3	0.7	10	5.0	0.6	11	-0.7	50	0	0	0	6	2	1	1	0.0	40.0	29	0	1	0	2	5	3	0	9.1	72.7
35	4.0	0.3	3	4.3	0.7	7	-0.3	57	0	0	0	3	0	0	0	0.0	0.0	33	1	0	0	3	2	0	1	14.3	42.9
36	4.3	0.7	15	5.0	0.9	21	-0.7	45	0	0	2	7	4	1	1	0.0	40.0	19	0	0	0	8	5	6	2	0.0	61.9
37	4.0	0.3	15	3.8	0.6	25	0.2	44	0	0	2	11	2	0	0	0.0	13.3	14	0	1	8	12	3	1	0	4.0	16.0
38	4.2	0.3	4	4.3	1.9	14	-0.1	56	0	0	0	3	0	1	0	0.0	25.0	26	4	0	0	4	4	2	0	28.6	42.9
39	4.6	0.6	18	4.7	0.7	16	-0.0	41	0	0	2	6	8	2	0	0.0	55.6	24	1	0	0	6	6	1	2	6.3	56.3
40	4.0	0.3	1	3.8	1.5	11	0.2	59	0	0	0	1	0	0	0	0.0	0.0	29	3	1	0	5	2	0	0	36.4	18.2
41	3.5	0.5	2	2.3	0.9	11	1.3	58	0	0	1	1	0	0	0	0.0	0.0	29	4	2	4	1	0	0	0	54.5	0.0
42	4.0	0.4	25	4.0	0.4	23	0.0	34	0	0	5	15	3	2	0	0.0	20.0	16	0	1	4	13	3	2	0	4.3	21.7
43	3.6	0.6	11	3.7	0.8	13	-0.1	49	0	1	4	5	1	0	0	9.1	9.1	27	3	0	2	7	1	0	0	23.1	7.7
44	0.0	0.0	0	1.5	1.0	6	-1.5	60	0	0	0	0	0	0	0	0.0	0.0	34	3	0	3	0	0	0	0	50.0	0.0
45	3.7	1.4	7	3.1	0.7	15	0.6	53	2	0	1	3	1	0	0	28.6	14.3	25	2	2	6	4	1	0	0	26.7	6.7
46	4.0	0.3	1	3.8	0.6	11	0.2	59	0	0	0	1	0	0	0	0.0	0.0	29	1	0	3	5	0	2	0	9.1	18.2
47	4.2	0.9	20	4.1	0.8	23	0.1	40	0	1	5	6	6	2	0	5.0	40.0	17	1	1	4	9	4	2	2	8.7	34.8
48	0.0	0.0	0	1.5	1.5	6	-1.5	60	0	0	0	0	0	0	0	0.0	0.0	34	3	0	0	3	0	0	0	50.0	0.0
49	3.8	1.2	6	4.2	0.7	13	-0.4	54	1	1	0	3	1	0	0	33.3	16.7	27	0	0	3	5	4	1	0	0.0	38.5
50	2.0	0.3	1	1.5	2.0	2	0.5	59	0	1	0	0	0	0	0	99.9	0.0	38	1	0	0	0	1	0	0	50.0	50.0
51	1.5	2.0	2	4.2	0.7	6	-2.7	58	1	0	0	0	1	0	0	50.0	50.0	34	1	0	0	3	1	1	0	16.7	33.3
52	4.0	0.3	1	3.8	0.6	9	0.2	59	0	0	0	1	0	0	0	0.0	0.0	31	1	0	2	5	1	0	0	11.1	11.1
53	3.3	1.9	3	2.0	1.0	12	1.3	57	0	0	2	0	0	0	1	0.0	33.3	28	5	2	4	1	0	0	0	58.3	0.0
54	3.0	1.0	6	3.0	0.7	14	0.0	54	1	1	2	1	1	0	0	33.3	16.7	26	2	2	6	4	0	0	0	28.6	0.0
55	2.0	1.1	5	3.8	1.4	13	-1.8	55	2	1	1	0	0	1	0	60.0	20.0	27	3	2	0	5	2	1	0	38.5	23.1
56	5.0	1.3	3	4.0	1.2	7	1.0	57	0	0	1	0	1	1	0	0.0	66.7	33	1	0	1	3	0	2	0	14.3	28.6
57	0.0	0.0	0	3.6	1.5	9	-3.6	60	0	0	0	0	0	0	0	0.0	0.0	31	3	0	1	4	1	0	0	33.3	11.1
58	4.0	0.3	1	3.1	1.2	11	0.9	58	0	0	0	1	0	0	0	0.0	0.0	29	3	0	4	4	0	0	0	27.3	0.0
59	3.6	0.7	22	4.0	0.4	21	-0.4	38	1	0	9	8	3	1	0	4.5	18.2	18	0	0	3	14	3	1	0	0.0	19.0
60	3.2	0.5	6	3.7	0.5	15	-0.5	54	1	0	3	2	0	0	0	16.7	0.0	25	1	0	5	9	0	0	0	6.7	0.0
61	4.0	0.6	15	3.9	0.5	18	0.1	45	0	0	4	7	3	1	0	0.0	26.7	22	1	1	3	10	3	0	0	11.1	16.7
62	4.0	0.3	1	6.0	1.4	5	-2.0	59	0	0	0	1	0	0	0	0.0	0.0	35	0	0	0	2	0	1	2	0.0	60.0
63	0.0	0.0	0	3.0	0.4	5	-3.0	60	0	0	0	0	0	0	0	0.0	0.0	35	1	0	3	1	0	0	0	20.0	0.0
64	3.8	1.4	3	4.0	1.6	7	-0.3	57	1	0	0	2	0	0	0	33.3	0.0	33	2	0	0	3	2	0	0	28.6	28.6
65	4.4	0.5	31	4.4	0.7	24	-0.0	29	0	1	0	17	11	2	0	3.2	41.9	15	2	0	2	9	7	1	3	8.3	45.8

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
66	4.0	0.3	1	3.5	1.5	8	0.5	59	0	0	0	1	0	0	0	0.0	0.0	31	3	0	1	3	1	0	0	37.5	12.5
67	0.0	0.0	0	3.2	0.5	12	-3.2	60	0	0	0	0	0	0	0	0.0	0.0	27	2	0	6	4	0	0	0	16.7	0.0
68	3.5	0.7	10	4.4	1.1	15	-0.9	50	2	0	3	4	0	0	1	20.0	10.0	25	2	0	2	4	3	3	1	13.3	46.7
69	4.0	1.0	4	3.0	2.3	7	1.0	56	0	1	0	2	0	0	1	25.0	25.0	33	3	0	1	0	1	1	1	42.9	42.9
70	2.5	1.5	2	4.0	0.9	6	-1.5	58	0	1	0	0	1	0	0	50.0	50.0	34	1	0	1	2	2	0	0	16.7	33.3
71	0.0	0.0	0	4.0	1.9	7	-4.0	60	0	0	0	0	0	0	0	0.0	0.0	33	3	0	0	1	3	0	0	42.9	42.9
72	3.3	1.9	3	2.0	2.3	7	1.3	57	0	0	2	0	0	0	1	0.0	33.3	33	3	1	0	0	1	2	0	57.1	42.9
73	6.0	0.3	1	6.5	2.8	4	-0.5	59	0	0	0	0	0	1	0	0.0	99.9	36	1	0	0	0	0	1	2	25.0	75.0
74	5.5	2.0	4	5.8	1.9	7	-0.3	56	0	1	0	0	1	1	1	25.0	75.0	33	1	1	0	0	0	5	0	28.6	71.4
75	0.0	0.0	0	5.9	0.3	5	-5.9	60	0	0	0	0	0	0	0	0.0	0.0	35	1	0	0	0	0	4	0	20.0	80.0
76	0.0	0.0	0	1.5	2.0	2	-1.5	60	0	0	0	0	0	0	0	0.0	0.0	38	1	0	0	0	1	0	0	50.0	50.0
77	3.3	0.7	14	3.8	0.5	15	-0.5	46	2	1	5	5	0	1	0	21.4	7.1	25	0	1	4	8	1	1	0	6.7	13.3
78	4.3	0.7	22	4.4	0.6	25	-0.2	38	0	0	4	9	6	3	0	0.0	40.9	15	0	0	3	10	11	0	1	0.0	48.0
79	3.3	1.0	19	3.3	0.8	26	-0.0	41	4	1	6	4	3	1	0	26.3	21.1	14	4	1	10	6	2	2	1	19.2	19.2
80	4.1	0.6	13	4.5	0.9	16	-0.4	47	0	0	3	6	3	1	0	0.0	30.8	24	2	1	0	5	4	2	2	18.8	50.0
81	4.2	0.5	37	4.7	0.9	25	-0.5	23	0	0	5	20	10	1	1	0.0	32.4	15	0	0	3	8	7	3	4	0.0	56.0
82	4.2	0.5	28	4.2	1.1	27	-0.0	30	2	0	2	15	7	1	1	7.1	32.1	13	2	0	6	8	4	5	2	7.4	40.7
83	3.9	0.5	27	4.0	0.7	27	-0.1	33	0	0	8	14	2	2	1	0.0	18.5	13	2	1	5	11	7	0	1	11.1	29.6
84	3.7	0.5	31	4.2	0.5	28	-0.5	29	0	0	12	16	1	1	1	0.0	9.7	12	0	0	3	16	8	0	1	0.0	32.1
85	3.8	0.5	27	4.1	0.5	33	-0.3	33	0	1	8	17	1	0	0	3.7	3.7	6	3	0	3	18	5	3	1	9.1	27.3
86	4.0	0.5	30	4.5	0.7	33	-0.5	30	0	1	7	15	2	4	1	3.3	23.3	6	0	1	2	14	9	5	2	3.0	48.5
87	3.9	0.5	31	4.5	0.7	29	-0.5	28	0	0	8	17	2	4	0	0.0	19.4	10	1	0	1	13	9	3	2	3.4	48.3
88	3.0	0.9	6	2.8	1.3	12	0.2	53	1	1	2	2	0	0	0	33.3	0.0	28	4	1	3	3	1	0	0	41.7	8.3
89	3.4	0.8	13	3.6	0.8	20	-0.2	47	1	1	5	3	3	0	0	15.4	23.1	20	3	0	6	7	3	1	0	15.0	20.0
90	3.7	1.1	14	3.5	0.8	20	0.2	46	2	3	1	6	2	0	0	35.7	14.3	20	3	1	6	6	4	0	0	20.0	20.0
91	4.0	0.7	10	3.5	1.0	22	0.5	50	0	0	3	4	2	0	1	0.0	30.0	18	2	2	7	5	3	2	1	18.2	27.3
92	3.3	0.6	13	3.5	0.8	16	-0.3	46	0	2	6	4	1	0	0	15.4	7.7	24	1	3	4	6	1	0	1	25.0	12.5
93	4.1	0.8	23	3.9	1.6	18	0.2	36	3	0	2	10	3	3	2	13.0	34.8	22	5	0	1	7	3	2	0	27.8	27.8
94	4.1	1.0	7	3.8	1.8	14	0.4	53	0	0	1	4	0	2	0	0.0	28.6	26	4	0	2	4	1	3	0	28.6	28.6
95	2.3	0.9	3	3.3	1.0	13	-1.0	57	0	2	0	1	0	0	0	66.7	0.0	26	2	3	2	6	0	0	0	38.5	0.0
96	2.5	0.5	2	3.5	1.4	14	-1.0	58	0	1	1	0	0	0	0	50.0	0.0	25	4	0	3	5	2	0	0	28.6	14.3
97	2.5	0.5	2	3.0	1.1	13	-0.5	58	0	1	1	0	0	0	0	50.0	0.0	26	3	1	5	2	1	1	0	30.8	15.4
98	4.0	0.3	1	3.8	0.8	4	0.2	59	0	0	0	1	0	0	0	0.0	0.0	36	0	1	0	3	0	0	0	25.0	0.0
99	3.0	0.8	3	3.5	0.8	18	-0.5	57	0	1	1	1	0	0	0	33.3	0.0	22	3	0	6	6	2	1	0	16.7	16.7
100	4.2	0.4	11	4.2	0.6	14	0.0	49	0	0	0	8	2	1	0	0.0	27.3	26	3	0	0	6	5	0	0	21.4	35.7

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
101	4.5	0.6	33	4.2	0.6	30	0.3	27	0	2	0	15	13	3	0	6.1	48.5	10	0	0	3	17	6	4	0	0.0	33.3
102	4.1	0.4	26	4.1	0.7	23	-0.0	34	0	0	4	16	5	1	0	0.0	23.1	17	2	0	3	11	3	3	1	8.7	30.4
103	0.0	0.0	0	3.0	1.8	6	-3.0	60	0	0	0	0	0	0	0	0.0	0.0	34	2	0	2	0	2	0	0	33.3	33.3
104	4.0	0.4	18	4.0	0.8	23	-0.0	40	0	0	3	11	4	0	0	0.0	22.2	17	0	0	6	10	2	4	1	0.0	30.4
105	3.7	0.9	14	3.8	0.7	21	-0.1	46	2	1	3	5	3	0	0	21.4	21.4	19	1	0	7	8	4	1	0	4.8	23.8
106	3.0	1.0	15	2.9	0.8	28	0.1	45	3	2	5	4	0	1	0	33.3	6.7	12	3	7	10	6	1	1	0	35.7	7.1
107	3.2	0.8	16	3.8	0.7	17	-0.6	44	2	2	6	4	2	0	0	25.0	12.5	23	1	2	3	8	2	1	0	17.6	17.6
108	4.5	0.8	28	4.6	1.0	29	-0.1	31	0	2	4	8	10	3	1	7.1	50.0	11	1	0	3	10	6	6	3	3.4	51.7
109	4.0	0.5	4	3.9	1.4	12	0.1	56	0	0	1	2	1	0	0	0.0	25.0	28	3	0	0	7	2	0	0	25.0	16.7
110	3.8	0.7	16	3.5	1.7	8	0.3	43	2	0	4	7	3	0	0	12.5	18.8	32	3	0	1	2	2	0	0	37.5	25.0
111	3.6	0.6	9	3.8	0.6	11	-0.2	51	0	1	3	5	0	0	0	11.1	0.0	29	1	0	3	6	1	0	0	9.1	9.1
112	4.1	0.3	20	4.0	0.9	20	0.1	39	0	0	0	16	1	3	0	0.0	20.0	20	4	0	2	8	4	1	1	20.0	30.0
113	3.8	0.8	18	4.3	0.9	19	-0.5	42	0	2	5	6	3	1	1	11.1	27.8	21	1	2	1	7	4	3	1	15.8	42.1
114	3.9	0.3	6	3.5	0.8	12	0.4	54	0	0	1	5	0	0	0	0.0	0.0	28	1	2	3	5	1	0	0	25.0	8.3
115	4.2	0.4	35	4.4	0.7	25	-0.1	25	0	0	0	24	9	2	0	0.0	31.4	15	0	0	2	12	7	3	1	0.0	44.0
116	4.3	0.6	24	4.5	0.8	26	-0.2	36	1	0	2	11	8	2	0	4.2	41.7	14	0	0	1	12	6	4	3	0.0	50.0
117	4.1	0.6	20	3.9	0.4	21	0.1	40	0	0	5	9	6	0	0	0.0	30.0	19	3	0	2	13	3	0	0	14.3	14.3
118	4.0	1.3	3	3.5	1.5	6	0.5	57	0	0	1	1	0	1	0	0.0	33.3	34	2	0	1	2	1	0	0	33.3	16.7
119	3.9	0.9	16	4.1	0.8	18	-0.2	44	3	0	3	5	5	0	0	18.8	31.3	22	3	0	2	7	6	0	0	16.7	33.3
120	4.1	0.5	13	4.0	0.8	24	0.1	47	2	0	0	7	3	1	0	15.4	30.8	16	4	0	3	10	6	1	0	16.7	29.2
121	3.0	1.3	5	5.6	1.1	13	-2.6	55	1	1	1	1	0	1	0	40.0	20.0	27	0	1	1	2	2	5	2	7.7	69.2
122	1.5	2.5	2	5.4	0.9	15	-3.9	58	1	0	0	0	0	1	0	50.0	50.0	25	3	0	0	1	4	5	2	20.0	73.3
123	3.0	0.3	1	1.5	1.0	2	1.5	59	0	0	1	0	0	0	0	0.0	0.0	38	1	0	1	0	0	0	0	50.0	0.0
124	4.0	0.4	16	4.1	1.7	16	-0.1	43	0	1	1	11	3	0	0	6.3	18.8	24	4	0	1	5	5	1	0	25.0	37.5
125	3.7	0.6	14	4.7	0.8	21	-1.0	46	0	0	6	6	1	1	0	0.0	14.3	18	2	1	1	5	8	1	3	14.3	57.1
126	4.0	0.4	19	4.4	0.8	24	-0.4	41	0	0	4	12	2	1	0	0.0	15.8	16	2	0	2	9	6	4	1	8.3	45.8
127	2.7	0.9	9	3.4	0.7	15	-0.7	51	2	2	3	2	0	0	0	44.4	0.0	25	3	0	5	6	1	0	0	20.0	6.7
128	3.8	0.6	21	3.9	0.4	29	-0.1	38	1	3	2	13	2	0	0	19.0	9.5	11	2	0	5	17	4	1	0	6.9	17.2
129	3.2	0.6	19	3.5	0.7	16	-0.3	40	1	2	9	6	1	0	0	15.8	5.3	24	2	1	5	6	2	0	0	18.8	12.5
130	3.3	0.6	8	3.7	1.4	15	-0.5	52	0	1	4	2	1	0	0	12.5	12.5	25	4	0	2	7	2	0	0	26.7	13.3
131	4.0	1.8	3	3.8	0.9	8	0.3	57	1	0	0	1	1	0	0	33.3	33.3	32	1	1	1	4	1	0	0	25.0	12.5
132	3.0	0.9	15	4.1	0.6	16	-1.1	45	2	3	5	3	2	0	0	33.3	13.3	24	3	0	1	7	5	0	0	18.8	31.3
133	3.0	0.3	1	3.8	0.6	11	-0.8	59	0	0	1	0	0	0	0	0.0	0.0	29	1	0	3	6	1	0	0	9.1	9.1
134	4.0	0.3	1	4.2	1.6	10	-0.2	59	0	0	0	1	0	0	0	0.0	0.0	29	2	1	0	3	2	2	0	30.0	40.0
135	1.5	1.0	2	3.0	1.4	12	-1.5	58	1	0	1	0	0	0	0	50.0	0.0	28	4	1	2	4	1	0	0	41.7	8.3

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
136	0.0	0.0	0	4.0	1.8	3	-4.0	60	0	0	0	0	0	0	0	0.0	0.0	37	1	0	0	1	1	0	0	33.3	33.3
137	4.3	0.4	3	3.0	1.4	8	1.3	57	0	0	0	2	1	0	0	0.0	33.3	32	3	0	2	2	1	0	0	37.5	12.5
138	3.0	0.3	1	2.7	1.1	7	0.3	59	0	0	1	0	0	0	0	0.0	0.0	33	3	0	3	0	1	0	0	42.9	14.3
139	3.0	0.3	1	3.6	1.5	9	-0.6	59	0	0	1	0	0	0	0	0.0	0.0	31	3	0	1	4	1	0	0	33.3	11.1
140	0.0	0.0	0	2.0	1.0	14	-2.0	60	0	0	0	0	0	0	0	0.0	0.0	26	6	2	4	2	0	0	0	57.1	0.0
141	3.3	0.5	8	3.8	0.7	19	-0.5	52	0	1	4	3	0	0	0	12.5	0.0	21	1	2	4	9	3	0	0	15.8	15.8
142	6.0	0.3	1	4.9	2.1	11	1.1	59	0	0	0	0	0	1	0	0.0	99.9	29	3	0	0	1	4	2	1	27.3	63.6
143	4.1	0.5	35	4.6	0.7	24	-0.5	24	0	3	3	18	11	0	0	8.6	31.4	16	0	0	2	9	8	3	2	0.0	54.2
144	3.5	0.8	8	4.3	1.5	9	-0.8	51	1	1	2	4	0	0	0	25.0	0.0	31	1	2	0	2	3	1	0	33.3	44.4
145	4.2	0.5	25	4.8	1.1	18	-0.6	34	0	0	2	15	6	2	0	0.0	32.0	22	0	2	1	5	4	3	3	11.1	55.6
146	3.9	0.4	9	5.0	1.3	11	-1.1	50	0	1	1	6	0	1	0	11.1	11.1	29	0	0	0	4	3	0	4	0.0	63.6
147	4.1	0.5	26	4.9	1.1	21	-0.8	32	0	1	4	14	4	3	0	3.8	26.9	18	1	0	2	5	6	3	4	4.8	61.9
148	4.3	0.6	15	4.1	0.3	10	0.2	45	0	0	2	7	6	0	0	0.0	40.0	30	0	0	0	8	1	1	0	0.0	20.0
149	3.5	0.6	6	4.1	0.7	13	-0.6	54	0	0	3	2	0	1	0	0.0	16.7	27	2	0	1	6	2	1	1	15.4	30.8
150	4.0	0.5	19	4.3	0.9	14	-0.3	41	0	0	5	9	5	0	0	0.0	26.3	26	0	0	3	5	3	2	1	0.0	42.9
151	4.0	0.3	1	3.5	0.6	6	0.5	58	0	0	0	1	0	0	0	0.0	0.0	34	1	0	2	3	0	0	0	16.7	0.0
152	4.6	0.7	13	5.1	1.8	11	-0.5	46	0	0	2	4	6	1	0	0.0	53.8	29	2	1	0	0	4	4	0	27.3	72.7
153	4.0	1.1	5	4.5	1.5	4	-0.5	55	1	0	1	1	2	0	0	20.0	40.0	36	0	1	0	1	1	1	0	25.0	50.0
154	4.3	0.8	5	3.8	1.8	10	0.4	55	0	0	1	2	1	1	0	0.0	40.0	30	3	1	0	3	1	2	0	40.0	30.0
155	4.8	0.7	32	5.3	1.0	23	-0.5	28	0	0	2	11	11	6	2	0.0	59.4	17	0	0	1	6	6	5	5	0.0	69.6
156	3.8	0.5	17	4.1	0.9	24	-0.2	42	1	0	4	10	2	0	0	5.9	11.8	16	1	2	4	9	4	2	2	12.5	33.3
157	3.5	0.5	2	1.3	1.4	3	2.3	58	0	0	1	1	0	0	0	0.0	0.0	36	2	0	0	1	0	0	0	66.7	0.0
158	3.5	0.5	2	1.5	1.0	2	2.0	58	0	0	1	1	0	0	0	0.0	0.0	38	1	0	1	0	0	0	0	50.0	0.0
159	3.3	0.7	12	2.8	0.7	15	0.4	48	0	3	4	5	0	0	0	25.0	0.0	25	3	2	8	2	0	0	0	33.3	0.0
160	3.8	0.6	12	4.2	0.7	14	-0.3	48	1	0	3	6	0	2	0	8.3	16.7	26	3	0	0	6	3	2	0	21.4	35.7
161	3.5	1.5	2	4.2	0.8	13	-0.7	58	0	0	1	0	0	1	0	0.0	50.0	27	1	0	2	5	3	0	2	7.7	38.5
162	3.5	0.5	2	1.5	2.0	2	2.0	58	0	0	1	1	0	0	0	0.0	0.0	38	1	0	0	0	1	0	0	50.0	50.0
163	3.6	0.6	9	3.5	1.4	10	0.1	51	0	1	3	4	1	0	0	11.1	11.1	30	3	0	2	4	1	0	0	30.0	10.0
164	3.0	0.3	2	2.8	0.9	9	0.3	58	0	0	2	0	0	0	0	0.0	0.0	31	3	0	6	0	0	0	0	33.3	0.0
165	5.2	0.7	8	4.3	0.7	7	0.8	52	0	0	0	2	3	3	0	0.0	75.0	33	1	0	0	3	2	1	0	14.3	42.9
166	4.0	0.3	1	4.5	2.3	4	-0.5	59	0	0	0	1	0	0	0	0.0	0.0	36	1	0	0	1	0	2	0	25.0	50.0
167	4.0	0.4	11	4.5	2.0	10	-0.5	49	0	0	2	7	2	0	0	0.0	18.2	30	3	1	0	1	3	1	1	40.0	50.0
168	3.8	0.5	10	4.3	2.2	11	-0.4	50	0	0	3	6	0	1	0	0.0	10.0	29	3	0	1	2	2	1	2	27.3	45.5
169	3.8	0.4	6	3.8	1.0	10	-0.1	54	0	0	2	4	0	0	0	0.0	0.0	30	1	1	2	3	3	0	0	20.0	30.0
170	3.3	0.5	14	3.8	0.6	17	-0.6	46	0	1	8	5	0	0	0	7.1	0.0	22	1	2	2	10	1	1	0	17.6	11.8

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
171	4.2	0.6	20	4.0	0.4	19	0.2	40	0	0	3	10	6	1	0	0.0	35.0	21	3	0	1	11	4	0	0	15.8	21.1
172	4.8	0.7	17	4.3	0.9	20	0.5	43	0	0	1	6	6	3	1	0.0	58.8	19	1	0	1	10	3	3	2	5.0	40.0
173	3.9	0.4	12	4.5	1.1	14	-0.6	48	0	0	3	7	2	0	0	0.0	16.7	26	3	0	1	3	5	0	2	21.4	50.0
174	3.9	0.4	25	4.1	0.7	19	-0.2	35	0	1	5	16	2	1	0	4.0	12.0	21	2	0	2	9	3	1	2	10.5	31.6
175	4.6	0.8	17	5.2	0.9	13	-0.6	43	0	1	2	5	5	3	1	5.9	52.9	27	0	0	1	2	5	2	3	0.0	76.9
176	4.8	0.8	15	5.5	1.0	10	-0.8	45	0	1	2	3	6	1	2	6.7	60.0	30	0	0	0	2	3	2	3	0.0	80.0
177	3.6	0.6	19	4.1	0.8	15	-0.6	40	0	1	8	9	1	0	0	5.3	5.3	25	1	0	2	7	2	1	2	6.7	33.3
178	5.2	0.9	18	4.9	1.7	22	0.3	42	0	1	0	4	6	4	3	5.6	72.2	17	4	1	1	3	5	3	5	22.7	59.1
179	3.5	0.5	2	4.8	0.6	5	-1.3	58	0	0	1	1	0	0	0	0.0	0.0	35	0	0	0	2	2	0	1	0.0	60.0
180	4.2	0.4	10	5.1	0.8	9	-0.9	49	0	0	0	7	2	0	1	0.0	30.0	31	0	0	0	2	4	1	2	0.0	77.8
181	5.3	0.9	26	6.6	0.9	11	-1.3	33	1	0	0	6	8	6	5	3.8	73.1	29	0	0	0	0	4	1	6	0.0	99.9
182	4.6	0.8	21	6.0	0.9	5	-1.4	39	1	0	1	8	6	2	3	4.8	52.4	35	0	0	0	0	2	1	2	0.0	99.9
183	4.9	1.0	13	5.0	1.1	10	-0.1	46	1	0	1	3	4	2	2	7.7	61.5	30	2	0	0	2	2	3	1	20.0	60.0
184	5.7	1.0	20	5.8	0.8	17	-0.1	38	0	0	2	2	5	5	6	0.0	80.0	23	0	0	0	2	5	6	4	0.0	88.2
185	5.3	1.3	11	5.3	1.2	9	0.1	49	0	0	2	1	3	1	4	0.0	72.7	30	2	0	0	1	2	3	1	22.2	66.7
186	4.0	0.3	1	3.9	0.5	7	0.1	59	0	0	0	1	0	0	0	0.0	0.0	33	1	0	1	4	0	0	1	14.3	14.3
187	4.3	0.5	5	4.1	0.5	7	0.2	55	0	0	0	3	2	0	0	0.0	40.0	33	1	0	0	4	1	0	1	14.3	28.6
188	4.4	1.2	9	6.7	0.5	5	-2.3	51	0	0	1	4	1	1	2	0.0	44.4	35	0	0	0	0	0	2	3	0.0	99.9
189	5.0	1.3	28	6.4	0.6	11	-1.4	31	3	0	1	7	6	3	8	10.7	60.7	29	0	0	0	0	1	5	5	0.0	99.9
190	3.0	0.3	7	5.5	2.8	8	-2.5	53	1	0	5	0	1	0	0	14.3	14.3	32	2	0	0	1	1	0	4	25.0	62.5
191	5.0	1.0	26	6.4	0.6	11	-1.4	33	2	0	1	6	8	4	5	7.7	65.4	29	0	0	0	0	1	5	5	0.0	99.9
192	3.8	0.9	7	4.3	1.6	9	-0.6	53	1	0	2	2	1	0	1	14.3	28.6	31	2	0	0	3	0	1	3	22.2	44.4
193	6.7	0.7	5	6.8	0.9	3	-0.1	54	0	0	0	0	1	1	3	0.0	99.9	37	0	0	0	0	1	0	2	0.0	99.9
194	2.7	1.2	9	4.3	1.7	9	-1.7	51	4	0	3	0	1	0	1	44.4	22.2	31	2	0	0	3	0	0	4	22.2	44.4
195	4.3	0.9	19	4.8	1.8	9	-0.5	41	1	0	4	6	5	2	1	5.3	42.1	31	1	0	2	1	2	0	3	11.1	55.6
196	6.4	0.9	40	6.7	0.5	20	-0.3	18	0	0	1	3	8	9	19	0.0	90.0	20	0	0	0	0	2	5	13	0.0	99.9
197	4.7	1.2	25	6.3	0.8	7	-1.5	34	3	0	3	5	7	2	5	12.0	56.0	32	0	0	0	0	2	2	3	0.0	99.9
198	4.8	1.3	4	6.5	1.3	4	-1.7	56	0	1	0	0	3	0	0	25.0	75.0	36	0	0	0	1	0	1	2	0.0	75.0
199	4.0	0.5	4	6.7	0.7	5	-2.7	56	0	0	1	2	0	0	1	0.0	25.0	35	0	0	1	0	0	1	3	0.0	80.0
200	5.6	1.0	23	6.0	1.4	12	-0.4	37	2	0	2	1	6	5	7	8.7	78.3	28	0	1	0	3	1	2	5	8.3	66.7
201	4.4	0.6	24	6.0	1.8	9	-1.6	36	1	0	2	10	11	0	0	4.2	45.8	31	0	0	3	0	1	1	4	0.0	66.7
202	4.0	0.4	16	5.2	1.9	10	-1.2	43	0	0	3	10	2	1	0	0.0	18.8	30	2	0	1	0	3	0	4	20.0	70.0
203	6.6	0.8	12	6.7	0.8	8	-0.1	48	0	0	0	0	3	2	7	0.0	99.9	31	0	0	0	1	1	1	5	0.0	87.5
204	4.2	0.5	23	5.0	1.4	13	-0.8	37	0	0	2	13	6	0	2	0.0	34.8	26	1	0	2	2	3	2	3	7.7	61.5
205	5.6	0.7	36	6.4	0.6	21	-0.8	24	1	0	1	1	14	11	8	2.8	91.7	18	0	0	0	1	2	8	10	0.0	95.2

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	O+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	O+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
206	5.2	0.7	33	5.9	0.9	20	-0.7	25	0	0	1	6	14	7	5	0.0	78.8	19	0	0	0	1	7	5	7	0.0	95.0
207	3.0	0.3	1	7.0	0.3	1	-4.0	59	0	0	1	0	0	0	0	0.0	0.0	38	0	0	0	0	0	0	1	0.0	99.9
208	4.5	0.6	25	6.0	1.1	14	-1.5	35	2	0	1	9	11	0	2	8.0	52.0	25	0	0	0	3	3	2	6	0.0	78.6
209	3.2	0.6	10	3.8	1.4	8	-0.5	50	0	0	7	1	1	0	1	0.0	20.0	32	2	0	1	4	0	0	1	25.0	12.5
210	3.5	0.6	6	5.5	1.0	2	-2.0	54	0	0	3	2	0	1	0	0.0	16.7	38	0	0	0	0	1	0	1	0.0	99.9
211	3.8	0.7	19	5.0	1.5	10	-1.2	41	1	2	4	8	4	0	0	15.8	21.1	29	0	0	3	1	2	2	2	0.0	60.0
212	3.8	0.6	21	5.5	1.7	10	-1.7	38	1	1	5	10	4	0	0	9.5	19.0	29	0	0	3	0	2	2	3	0.0	70.0
213	3.3	0.7	16	5.0	2.1	7	-1.7	42	1	2	6	5	2	0	0	18.8	12.5	32	0	2	0	1	1	1	2	28.6	57.1
214	3.0	0.3	1	6.0	1.8	3	-3.0	59	0	0	1	0	0	0	0	0.0	0.0	36	0	0	1	0	0	1	1	0.0	66.7
215	4.6	0.7	23	5.4	0.9	9	-0.8	37	0	0	1	10	7	3	2	0.0	52.2	30	0	0	0	0	5	1	3	0.0	99.9
216	3.9	0.6	25	5.0	1.4	11	-1.1	35	0	1	7	11	5	0	1	4.0	24.0	28	0	2	0	3	1	2	3	18.2	54.5
217	4.5	0.7	25	6.3	0.8	11	-1.9	35	0	0	2	11	8	1	3	0.0	48.0	29	0	0	0	0	3	3	5	0.0	99.9
218	5.2	0.9	46	6.1	0.6	20	-0.9	14	0	0	2	8	18	8	10	0.0	78.3	17	0	0	0	1	4	8	7	0.0	95.0
219	4.9	0.6	38	5.7	0.8	16	-0.8	22	0	0	1	12	16	5	4	0.0	65.8	23	0	0	0	2	5	5	4	0.0	87.5
220	5.0	1.3	11	6.5	0.6	6	-1.5	49	0	0	1	3	3	1	3	0.0	63.6	34	1	0	0	0	0	2	3	16.7	83.3
221	3.6	0.6	26	3.0	1.3	13	0.6	34	2	2	8	14	0	0	0	15.4	0.0	27	3	3	1	4	0	0	2	46.2	15.4
222	4.5	1.7	8	5.5	1.3	14	-1.0	52	0	0	3	1	1	1	2	0.0	50.0	26	3	0	0	1	3	3	4	21.4	71.4
223	5.0	0.5	4	5.3	1.3	4	-0.3	56	0	0	0	1	2	0	1	0.0	75.0	31	2	0	0	1	2	2	2	22.2	66.7
224	5.0	0.7	34	5.1	1.2	20	-0.1	26	2	0	2	5	15	7	3	5.9	73.5	19	0	0	1	6	5	3	5	0.0	65.0
225	5.0	1.3	3	5.0	2.3	7	0.0	57	0	0	1	0	1	1	0	0.0	66.7	33	2	0	0	1	1	3	0	28.6	57.1
226	5.2	0.8	29	5.6	0.8	15	-0.4	31	0	0	1	5	12	6	5	0.0	79.3	24	0	0	0	1	6	4	4	0.0	93.3
227	4.1	1.1	18	6.7	0.8	8	-2.6	42	3	1	1	7	2	1	3	22.2	33.3	32	0	0	0	0	2	1	5	0.0	99.9
228	4.2	1.0	25	6.5	0.8	8	-2.3	35	2	1	1	12	2	3	4	12.0	36.0	32	0	0	0	1	1	2	4	0.0	87.5
229	4.4	1.0	18	5.2	0.7	11	-0.8	42	0	0	3	7	2	5	1	0.0	44.4	28	0	0	0	2	5	2	2	0.0	81.8
230	4.3	0.9	16	5.5	1.0	10	-1.2	44	0	0	3	6	3	1	3	0.0	43.8	30	1	0	0	1	3	2	3	10.0	80.0
231	1.3	1.9	3	4.0	2.8	3	-2.8	57	2	0	0	0	1	0	0	66.7	33.3	37	1	0	0	1	0	0	1	33.3	33.3
232	0.0	0.0	0	7.0	0.3	1	-7.0	60	0	0	0	0	0	0	0	0.0	0.0	39	0	0	0	0	0	0	1	0.0	99.9
233	3.3	0.8	5	6.8	1.8	4	-3.6	55	1	0	2	1	1	0	0	20.0	20.0	36	0	0	1	0	0	0	3	0.0	75.0
234	2.5	1.0	10	4.5	1.0	4	-2.0	50	3	2	3	2	0	0	0	50.0	0.0	36	0	0	1	1	1	0	1	0.0	50.0
235	3.0	0.3	2	4.5	1.5	2	-1.5	58	0	0	2	0	0	0	0	0.0	0.0	38	0	0	0	1	0	0	1	0.0	50.0
236	5.2	0.7	44	5.1	1.1	21	0.1	16	0	0	0	10	17	11	6	0.0	77.3	17	0	0	1	6	6	3	5	0.0	66.7
237	4.0	0.4	12	4.2	0.5	7	-0.2	48	1	0	1	8	1	1	0	8.3	16.7	33	0	0	0	5	1	1	0	0.0	28.6
238	3.0	1.4	9	4.3	0.8	5	-1.3	51	3	1	1	3	1	0	0	44.4	11.1	35	0	0	1	2	1	0	1	0.0	40.0
239	3.0	1.3	14	3.7	1.6	7	-0.7	46	4	1	4	4	1	0	0	35.7	7.1	33	3	0	0	3	0	0	1	42.9	14.3
240	3.6	0.8	13	4.0	1.0	10	-0.4	47	0	2	4	4	2	1	0	15.4	23.1	30	2	0	1	4	1	0	2	20.0	30.0

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
241	3.7	1.1	9	4.0	2.4	6	-0.3	51	1	2	1	3	2	0	0	33.3	22.2	34	2	0	0	2	0	1	1	33.3	33.3
242	0.0	0.0	0	1.3	2.9	3	-1.3	60	0	0	0	0	0	0	0	0.0	0.0	37	2	0	0	0	0	0	1	66.7	33.3
243	3.5	1.0	4	2.9	0.8	9	0.6	56	0	1	1	1	0	0	1	25.0	25.0	31	2	1	4	1	0	0	1	33.3	11.1
244	3.0	1.0	4	3.0	2.1	5	0.0	56	1	0	2	1	0	0	0	25.0	0.0	35	2	0	1	0	1	0	1	40.0	40.0
245	3.8	1.4	7	4.0	1.9	6	-0.2	53	1	2	0	2	2	0	0	42.9	28.6	34	2	0	0	2	1	0	1	33.3	33.3
246	3.9	0.5	7	4.3	0.6	6	-0.4	53	0	1	1	4	1	0	0	14.3	14.3	34	0	0	0	4	1	0	1	0.0	33.3
247	2.5	1.0	2	3.5	0.5	2	-1.0	58	0	1	0	1	0	0	0	50.0	0.0	38	0	0	1	1	0	0	0	0.0	0.0
248	2.9	0.3	7	4.0	1.8	7	-1.1	53	0	1	6	0	0	0	0	14.3	0.0	33	0	0	3	1	0	1	2	0.0	42.9
249	3.0	0.4	6	1.3	1.0	10	1.7	54	0	1	4	0	1	0	0	16.7	16.7	30	6	0	3	1	0	0	0	60.0	0.0
250	2.5	0.5	2	3.0	1.3	8	-0.5	58	0	1	1	0	0	0	0	50.0	0.0	32	3	0	2	3	0	0	0	37.5	0.0
251	4.0	0.3	2	3.5	1.3	4	0.5	58	0	0	0	2	0	0	0	0.0	0.0	36	1	0	1	2	0	0	0	25.0	0.0
252	3.5	0.5	10	4.3	0.8	16	-0.5	49	0	1	2	6	1	0	0	10.0	10.0	24	3	0	1	5	5	1	1	18.8	43.8
253	3.4	0.4	10	1.5	1.8	8	2.6	50	0	0	1	7	1	1	0	0.0	20.0	31	4	1	0	1	1	0	1	62.5	25.0
254	2.5	0.6	12	2.9	0.8	14	-0.4	48	2	4	6	0	0	0	0	50.0	0.0	26	1	4	5	3	0	0	1	35.7	7.1
255	4.4	0.7	32	4.1	0.8	24	0.2	27	1	1	2	14	8	6	0	6.3	43.8	16	1	0	6	8	6	1	2	4.2	37.5
256	1.0	0.3	2	3.7	0.9	9	-2.7	58	2	0	0	0	0	0	0	99.9	0.0	31	1	1	2	3	1	0	1	22.2	22.2
257	0.0	0.0	0	3.0	0.5	4	-3.0	60	0	0	0	0	0	0	0	0.0	0.0	36	0	1	2	0	0	0	1	25.0	25.0
258	3.0	1.8	3	2.5	0.5	4	0.5	57	0	1	1	0	0	1	0	33.3	33.3	36	0	2	2	0	0	0	0	50.0	0.0
259	3.0	0.3	3	2.5	0.8	6	0.5	57	0	0	3	0	0	0	0	0.0	0.0	34	1	2	1	0	0	0	1	50.0	16.7
260	3.0	0.4	5	2.3	0.8	5	0.8	55	1	0	3	1	0	0	0	20.0	0.0	35	1	2	1	1	0	0	0	60.0	0.0
261	0.0	0.0	0	2.3	0.4	3	-2.3	60	0	0	0	0	0	0	0	0.0	0.0	37	0	2	1	0	0	0	0	66.7	0.0
262	0.0	0.0	0	2.5	2.1	6	-2.5	60	0	0	0	0	0	0	0	0.0	0.0	34	1	2	0	1	0	1	1	50.0	33.3
263	3.3	0.4	6	3.5	1.9	6	-0.3	53	0	0	4	2	0	0	0	0.0	0.0	34	2	0	1	1	1	1	0	33.3	33.3
264	0.0	0.0	0	1.5	1.0	2	-1.5	60	0	0	0	0	0	0	0	0.0	0.0	38	1	0	1	0	0	0	0	50.0	0.0
265	3.0	0.3	5	3.3	0.7	7	-0.3	55	0	0	5	0	0	0	0	0.0	0.0	33	1	0	3	2	0	0	1	14.3	14.3
266	0.0	0.0	0	2.3	0.8	5	-2.3	60	0	0	0	0	0	0	0	0.0	0.0	35	1	2	1	0	1	0	0	60.0	20.0
267	3.9	0.4	8	3.3	0.6	5	0.6	49	1	0	5	1	0	0	0	12.5	12.5	35	1	0	2	2	0	0	0	20.0	0.0
268	4.1	0.6	15	3.8	1.2	18	0.3	43	0	0	3	7	5	0	0	0.0	33.3	22	4	1	1	9	2	0	1	27.8	16.7
269	3.3	0.7	5	4.0	1.0	6	-0.7	54	0	0	3	1	1	0	0	0.0	20.0	34	1	0	1	2	1	1	0	16.7	33.3
270	3.5	0.5	2	3.3	2.5	9	0.3	58	0	0	1	1	0	0	0	0.0	0.0	31	3	0	2	0	1	1	2	33.3	44.4
271	2.0	0.3	1	3.0	2.8	3	-1.0	57	0	1	0	0	0	0	0	99.9	0.0	37	1	0	1	0	0	0	1	33.3	33.3
272	2.0	1.3	3	1.5	1.0	2	0.5	57	1	1	0	1	0	0	0	66.7	0.0	38	1	0	1	0	0	0	0	50.0	0.0
273	0.0	0.0	0	4.0	1.5	4	-4.0	59	0	0	0	0	0	0	0	0.0	0.0	36	1	0	0	2	0	0	1	25.0	25.0
274	3.0	0.3	1	3.5	2.0	2	-0.5	59	0	0	1	0	0	0	0	0.0	0.0	38	0	0	1	0	0	0	1	0.0	50.0
275	1.0	0.3	1	3.0	2.8	3	-2.0	59	1	0	0	0	0	0	0	99.9	0.0	37	1	0	1	0	0	0	1	33.3	33.3

	ACTUAL WORKER FREQUENCY			SUPERVISOR FREQUENCY DESIRE			D:W-S	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE								PERF <1Y	PERF >=1W	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY								DES <1Y	DES >=1W
TASK	MDN	Q	N	MDN	Q	N	MDN	NONE	O+	Y-	1Y	1M	1W	1D	D+	%	%	NONE	O+	Y-	1Y	1M	1W	1D	D+	%	%
276	2.0	0.3	2	3.5	1.5	6	-1.5	58	0	2	0	0	0	0	0	99.9	0.0	34	2	0	1	2	0	0	1	33.3	16.7
277	3.0	0.3	4	3.9	0.5	13	-0.9	55	0	0	4	0	0	0	0	0.0	0.0	27	1	0	3	7	1	0	1	7.7	15.4
278	3.0	0.7	10	4.0	1.4	11	-1.0	49	1	2	4	3	0	0	0	30.0	0.0	29	2	0	2	3	1	1	2	16.7	36.4
279	3.0	0.3	2	4.3	0.9	11	-1.3	57	0	0	2	0	0	0	0	0.0	0.0	29	1	0	2	3	3	0	2	9.1	45.5
280	2.0	0.3	1	3.5	0.8	6	-1.5	59	0	1	0	0	0	0	0	99.9	0.0	34	1	0	2	2	0	0	1	16.7	16.7
281	1.5	1.0	2	3.5	1.5	4	-2.0	58	1	0	1	0	0	0	0	50.0	0.0	36	1	0	1	1	0	0	1	25.0	25.0
282	1.5	1.0	2	4.0	2.1	5	-2.5	58	1	0	1	0	0	0	0	50.0	0.0	35	1	0	1	1	0	0	2	20.0	40.0
283	0.0	0.0	0	3.0	2.8	3	-3.0	60	0	0	0	0	0	0	0	0.0	0.0	37	1	0	1	0	0	0	1	33.3	33.3
284	2.5	0.6	6	2.4	0.9	17	0.1	54	1	2	3	0	0	0	0	50.0	0.0	23	3	6	4	3	0	0	1	52.9	5.9
285	3.0	0.5	8	3.0	1.5	7	0.0	51	0	2	4	2	0	0	0	25.0	0.0	31	3	0	1	2	0	0	1	42.9	14.3
286	3.0	0.3	1	3.0	2.8	3	0.0	59	0	0	1	0	0	0	0	0.0	0.0	37	1	0	1	0	0	0	1	33.3	33.3
287	3.0	0.3	1	3.5	1.5	4	-0.5	59	0	0	1	0	0	0	0	0.0	0.0	36	1	0	1	1	0	0	1	25.0	25.0
288	0.0	0.0	0	2.0	2.6	5	-2.0	60	0	0	0	0	0	0	0	0.0	0.0	35	2	1	0	0	0	1	1	60.0	40.0
289	3.0	0.3	1	3.0	2.6	5	0.0	59	0	0	1	0	0	0	0	0.0	0.0	35	2	0	1	0	0	1	1	40.0	40.0
290	2.8	0.6	5	2.5	1.4	8	0.3	55	0	2	2	1	0	0	0	40.0	0.0	32	3	1	1	2	0	0	1	50.0	12.5
291	3.2	0.3	4	2.0	1.4	8	1.2	56	0	0	3	1	0	0	0	0.0	0.0	31	3	2	0	2	0	0	1	62.5	12.5
292	3.0	0.5	4	2.5	1.4	12	0.5	55	0	1	2	1	0	0	0	25.0	0.0	28	4	2	1	4	0	0	1	50.0	8.3
293	0.0	0.0	0	3.3	1.9	3	-3.3	60	0	0	0	0	0	0	0	0.0	0.0	37	0	0	2	0	0	0	1	0.0	33.3
294	3.0	0.3	1	3.7	0.9	7	-0.7	59	0	0	1	0	0	0	0	0.0	0.0	33	0	2	1	3	0	0	1	28.6	14.3
295	2.9	0.5	22	2.2	1.4	14	0.8	38	3	3	12	2	2	0	0	27.3	9.1	26	5	3	1	3	0	1	1	57.1	14.3
296	4.3	0.6	37	4.5	0.7	28	-0.2	22	1	0	4	17	11	4	0	2.7	40.5	12	0	0	2	12	9	3	2	0.0	50.0
297	4.6	0.7	47	4.8	0.7	28	-0.2	12	3	0	2	16	17	7	2	6.4	55.3	12	0	0	2	9	10	4	3	0.0	60.7
298	4.8	0.6	53	4.8	1.1	32	-0.0	5	1	0	1	19	22	7	3	1.9	60.4	7	3	0	2	9	7	6	5	9.4	56.3
299	4.6	0.6	49	4.3	0.6	34	0.3	9	3	0	3	17	25	1	0	6.1	53.1	5	1	0	4	15	12	1	1	2.9	41.2
300	4.5	0.7	47	4.6	0.8	30	-0.2	11	4	0	3	17	18	4	1	8.5	48.9	10	0	0	1	13	8	5	3	0.0	53.3
301	4.1	0.7	11	4.0	0.5	8	0.1	49	1	0	2	4	4	0	0	9.1	36.4	32	0	1	1	4	2	0	0	12.5	25.0
302	4.4	0.6	38	4.9	1.1	24	-0.5	20	1	0	2	17	13	4	1	2.6	47.4	16	2	0	3	4	7	5	3	8.3	62.5
303	3.4	0.9	15	2.9	0.5	15	0.5	44	2	0	6	3	4	0	0	13.3	26.7	25	2	2	8	1	1	0	1	26.7	13.3
304	3.3	0.9	7	3.3	0.5	8	0.0	53	0	2	2	2	0	1	0	28.6	14.3	32	1	0	4	3	0	0	0	12.5	0.0
305	4.7	0.6	26	5.3	1.0	17	-0.6	34	1	0	2	8	13	2	0	3.8	57.7	23	0	0	1	6	2	6	2	0.0	58.8
306	3.5	1.0	20	4.1	1.1	21	-0.6	40	1	5	4	6	0	3	1	30.0	20.0	19	5	0	1	8	4	1	2	23.8	33.3
307	4.1	0.5	33	4.4	1.0	24	-0.2	26	2	2	2	17	9	1	0	12.1	30.3	16	2	0	4	7	5	4	2	8.3	45.8
308	3.3	0.7	30	3.3	1.1	21	0.1	30	3	2	12	9	3	1	0	16.7	13.3	19	3	3	6	4	0	3	2	28.6	23.8
309	5.0	1.0	52	5.6	1.1	33	-0.5	8	0	0	1	19	11	13	8	0.0	61.5	6	1	0	0	8	7	8	9	3.0	72.7
310	3.8	0.6	24	4.3	1.9	21	-0.5	36	1	0	8	10	3	2	0	4.2	20.8	19	3	3	2	3	2	5	3	28.6	47.6

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
311	3.8	0.6	24	4.4	1.1	17	-0.6	36	1	2	5	12	3	1	0	12.5	16.7	23	0	1	2	6	3	2	3	5.9	47.1
312	4.9	0.7	32	4.5	1.0	22	0.4	27	1	0	4	6	14	5	2	3.1	65.6	18	1	0	1	9	4	4	3	4.5	50.0
313	4.1	0.6	28	4.3	0.6	21	-0.1	31	2	0	3	14	8	1	0	7.1	32.1	18	2	1	0	10	6	1	1	14.3	38.1
314	3.1	0.3	8	4.2	0.9	12	-1.1	52	0	0	7	1	0	0	0	0.0	0.0	28	1	1	2	3	5	0	0	16.7	41.7
315	4.0	0.4	31	4.3	0.6	28	-0.3	29	1	0	6	18	4	1	1	3.2	19.4	12	1	0	4	12	10	1	0	3.6	39.3
316	4.0	0.7	21	3.9	1.5	16	0.1	39	1	0	5	9	5	0	1	4.8	28.6	24	4	0	1	7	4	0	0	25.0	25.0
317	3.8	0.5	20	4.4	0.6	23	-0.6	40	1	0	5	12	2	0	0	5.0	10.0	17	0	0	2	10	9	2	0	0.0	47.8
318	5.3	0.6	57	6.3	1.1	38	-1.0	3	0	0	0	4	29	17	7	0.0	93.0	2	1	0	0	6	8	5	18	2.6	81.6
319	4.3	0.5	34	4.7	0.9	28	-0.4	26	0	0	2	20	9	3	0	0.0	35.3	12	3	0	4	5	10	2	4	10.7	57.1
320	4.4	0.6	23	5.2	1.2	18	-0.8	36	0	0	2	11	7	2	1	0.0	43.5	22	1	0	0	4	6	1	6	5.6	72.2
321	4.1	0.4	41	4.5	0.9	34	-0.4	19	0	1	3	28	6	2	1	2.4	22.0	5	3	1	4	9	9	3	5	11.8	60.0
322	4.0	0.3	1	5.0	0.5	4	-1.0	59	0	0	0	1	0	0	0	0.0	0.0	35	0	0	0	1	2	0	1	0.0	75.0
323	4.1	0.4	41	4.6	0.8	29	-0.5	16	0	2	2	28	6	3	0	4.9	22.0	11	2	1	1	10	8	3	4	10.3	51.7
324	2.0	0.3	1	4.5	1.0	4	-2.5	59	0	1	0	0	0	0	0	99.9	0.0	36	0	0	1	1	1	0	1	0.0	50.0
325	2.6	0.8	11	4.3	0.9	14	-1.7	49	2	3	4	2	0	0	0	45.5	0.0	26	0	3	0	5	3	1	2	21.4	42.9
326	4.0	0.5	53	4.3	0.7	32	-0.3	6	4	1	8	26	14	0	0	9.4	26.4	7	1	2	2	13	9	3	2	9.4	43.8
327	3.3	0.8	14	3.2	1.8	12	0.1	46	2	2	4	6	0	0	0	28.6	0.0	28	2	2	3	0	2	2	1	33.3	41.7
328	3.8	0.6	18	4.0	0.5	8	-0.2	42	2	0	4	9	2	1	0	11.1	16.7	32	0	0	2	4	1	0	1	0.0	25.0
329	4.0	0.5	17	5.2	1.1	10	-1.2	43	1	2	1	9	4	0	0	17.6	23.5	29	1	0	1	1	3	2	2	10.0	70.0
330	5.7	0.7	54	6.2	0.8	33	-0.5	5	0	0	2	4	17	21	10	0.0	88.9	6	0	0	1	3	5	11	13	0.0	87.9
331	5.0	0.6	52	6.1	1.0	29	-1.1	8	0	0	0	13	25	7	7	0.0	75.0	10	1	0	1	4	4	7	12	3.4	79.3
332	4.3	0.8	35	4.3	1.3	21	0.0	23	1	0	6	13	8	4	3	2.9	42.9	19	4	0	1	7	1	5	3	19.0	42.9
333	3.9	0.9	23	3.2	1.0	16	0.7	37	2	2	5	7	6	1	0	17.4	30.4	24	2	4	3	6	0	1	0	37.5	6.3
334	3.8	0.6	17	4.2	0.8	16	-0.4	43	1	2	2	10	2	0	0	17.6	11.8	24	3	0	0	7	3	2	1	18.8	37.5
335	0.0	0.0	0	3.0	1.8	3	-3.0	60	0	0	0	0	0	0	0	0.0	0.0	37	1	0	1	0	1	0	0	33.3	33.3
336	3.7	0.7	19	3.7	1.5	12	-0.0	41	2	0	6	8	0	2	1	10.5	15.8	28	4	0	1	5	1	1	0	33.3	16.7
337	4.2	0.4	21	4.5	0.9	18	-0.3	39	1	0	1	13	6	0	0	4.8	28.6	22	1	0	3	5	5	3	1	5.6	50.0
338	3.7	0.9	31	4.1	1.3	28	-0.5	29	4	2	8	9	5	3	0	19.4	25.8	12	2	4	3	8	4	5	2	21.4	39.3
339	3.7	0.7	33	3.5	0.9	22	0.2	27	0	4	9	15	3	1	1	12.1	15.2	18	5	0	6	7	3	1	0	22.7	18.2
340	3.6	0.8	9	2.2	1.0	10	1.5	51	1	1	2	4	0	1	0	22.2	11.1	30	3	3	2	2	0	0	0	60.0	0.0
341	3.9	0.9	23	3.5	0.8	18	0.4	36	1	0	8	6	7	1	0	4.3	34.8	22	1	1	7	5	2	0	2	11.1	22.2
342	3.8	0.7	23	3.9	1.1	17	-0.1	37	0	0	9	8	5	1	0	0.0	26.1	23	0	1	5	6	1	2	2	5.9	29.4
343	4.0	0.6	35	3.9	0.8	21	0.1	24	0	1	9	15	8	2	0	2.9	28.6	19	1	1	5	8	3	2	1	9.5	28.6
344	4.1	0.3	12	3.8	1.6	11	0.3	48	1	0	0	9	2	0	0	8.3	16.7	29	4	0	0	5	1	0	1	36.4	18.2
345	3.6	0.6	14	3.3	1.3	13	0.3	45	1	0	5	7	1	0	0	7.1	7.1	27	3	1	3	3	2	1	0	30.8	23.1

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	O+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	O+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
346	3.2	0.7	16	3.6	1.6	13	-0.5	43	2	2	6	6	0	0	0	25.0	0.0	27	4	2	0	4	0	2	1	46.2	23.1
347	3.5	0.6	22	3.7	0.7	16	-0.2	38	2	1	8	9	2	0	0	13.6	9.1	24	1	2	3	9	0	0	1	18.8	6.3
348	3.1	0.4	9	3.5	1.4	12	-0.4	51	1	0	6	2	0	0	0	11.1	0.0	28	3	1	2	4	2	0	0	33.3	16.7
349	3.0	0.3	1	1.5	1.5	2	1.5	59	0	0	1	0	0	0	0	0.0	0.0	38	1	0	0	1	0	0	0	50.0	0.0
350	4.0	0.4	41	5.0	0.5	28	-1.0	19	0	2	7	23	6	3	0	4.9	22.0	12	0	1	1	5	14	4	3	3.6	75.0
351	3.8	0.7	37	4.8	0.7	26	-1.0	23	1	1	12	15	5	3	0	5.4	21.6	14	1	3	1	5	12	1	3	15.4	61.5
352	4.4	0.8	48	4.5	1.1	28	-0.1	12	1	1	9	15	14	6	2	4.2	45.8	11	3	1	4	6	7	5	2	14.3	50.0
353	3.5	0.7	24	3.8	1.8	18	-0.3	36	1	1	10	8	3	1	0	8.3	16.7	22	6	0	1	6	2	2	1	33.3	27.8
354	5.2	0.8	59	5.4	1.0	33	-0.2	1	0	0	2	13	22	13	9	0.0	74.6	7	0	0	0	7	11	5	10	0.0	78.8
355	4.1	0.8	11	4.5	1.1	10	-0.4	49	1	0	2	4	3	1	0	9.1	36.4	30	0	1	0	4	2	1	2	10.0	50.0
356	4.5	0.6	31	4.8	0.6	23	-0.2	26	0	0	3	12	12	4	0	0.0	51.6	17	1	0	3	4	13	1	1	4.3	65.2
357	4.4	0.7	11	4.5	0.9	10	-0.1	49	0	0	1	5	3	1	1	0.0	45.5	29	0	0	0	5	2	2	1	0.0	50.0
358	4.2	0.7	6	1.3	1.5	5	2.8	54	0	0	1	3	1	1	0	0.0	33.3	35	3	0	0	2	0	0	0	60.0	0.0
359	4.0	0.8	22	4.1	0.9	17	-0.1	38	2	0	5	8	6	1	0	9.1	31.8	23	2	1	2	6	5	0	1	17.6	35.3
360	5.3	1.1	28	5.3	2.0	13	0.0	32	1	0	4	4	6	9	4	3.6	67.9	27	2	1	1	0	3	2	4	23.1	69.2
361	3.0	0.8	8	2.0	1.6	9	1.0	52	0	3	2	3	0	0	0	37.5	0.0	31	4	1	1	1	1	0	1	55.6	22.2
362	4.0	0.6	29	4.0	0.7	15	0.0	31	0	0	8	13	5	2	0	0.0	27.6	25	2	1	1	7	3	0	1	20.0	26.7
363	4.5	0.8	16	3.5	1.9	6	1.0	44	2	0	2	4	6	2	0	12.5	50.0	34	0	0	3	1	0	0	2	0.0	33.3
364	4.4	0.8	40	4.4	1.0	28	-0.0	20	0	0	2	21	7	6	4	0.0	42.5	12	3	0	3	9	5	5	3	10.7	46.4
365	0.0	0.0	0	1.3	1.7	5	-1.3	60	0	0	0	0	0	0	0	0.0	0.0	35	3	0	0	1	0	0	1	60.0	20.0
366	4.5	0.7	38	4.6	1.0	25	-0.1	21	1	0	5	13	13	4	2	2.6	50.0	15	1	1	0	10	4	7	2	8.0	52.0
367	4.5	0.8	16	3.0	2.0	7	1.5	44	0	0	3	5	5	1	2	0.0	50.0	33	3	0	1	0	2	1	0	42.9	42.9
368	4.9	0.9	15	4.5	1.3	18	0.4	44	1	1	1	2	6	2	2	13.3	66.7	22	3	1	2	3	5	3	1	22.2	50.0
369	3.0	0.3	1	1.5	1.1	4	1.5	59	0	0	1	0	0	0	0	0.0	0.0	34	3	0	2	1	0	0	0	50.0	0.0
370	3.9	0.8	24	3.2	1.3	14	0.8	36	1	1	6	9	6	1	0	8.3	29.2	25	4	1	3	6	0	0	0	35.7	0.0
371	2.9	0.3	13	3.0	1.2	13	-0.1	46	2	0	10	1	0	0	0	15.4	0.0	27	4	0	5	3	1	0	0	30.8	7.7
372	3.6	0.7	26	4.2	0.9	19	-0.6	33	3	2	7	12	0	2	0	19.2	7.7	21	0	0	3	9	2	4	1	0.0	36.8
373	3.9	0.9	17	4.3	0.9	22	-0.4	42	0	1	5	6	2	3	0	5.9	29.4	18	2	0	0	11	3	4	2	9.1	40.9
374	4.0	0.5	47	4.5	0.7	27	-0.5	12	2	2	8	24	9	0	2	8.5	23.4	13	0	0	1	13	8	3	2	0.0	48.1
375	4.0	0.4	53	4.3	0.6	30	-0.4	6	0	1	9	36	7	0	0	1.9	13.2	9	0	1	0	17	7	3	2	3.3	40.0
376	4.0	0.4	48	4.4	0.7	28	-0.4	11	2	3	5	27	8	1	2	10.4	22.9	11	0	0	2	13	8	3	2	0.0	46.4
377	3.7	0.6	17	3.7	2.0	13	0.0	43	0	2	5	9	1	0	0	11.8	5.9	27	4	0	2	3	1	1	2	30.8	30.8
378	3.9	0.8	13	3.8	1.8	9	0.1	47	1	0	4	4	4	0	0	7.7	30.8	31	3	0	1	2	3	0	0	33.3	33.3
379	3.5	1.0	8	1.3	1.7	5	2.2	52	1	1	2	2	2	0	0	25.0	25.0	35	3	0	0	1	1	0	0	60.0	20.0
380	4.0	0.7	30	4.2	0.5	27	-0.2	27	3	0	6	12	9	0	0	10.0	30.0	13	0	0	2	16	7	0	2	0.0	33.3

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
381	3.3	0.7	7	1.3	1.4	6	2.1	53	0	1	3	2	1	0	0	14.3	14.3	34	4	0	0	2	0	0	0	66.7	0.0
382	4.0	0.4	5	3.6	1.5	7	0.4	55	0	0	1	3	1	0	0	0.0	20.0	33	3	0	0	4	0	0	0	42.9	0.0
383	3.4	1.0	11	1.1	0.3	5	2.3	48	0	1	5	1	4	0	0	9.1	36.4	35	4	0	0	1	0	0	0	80.0	0.0
384	3.0	0.4	5	1.3	1.5	5	1.7	54	0	1	3	1	0	0	0	20.0	0.0	35	3	0	0	2	0	0	0	60.0	0.0
385	4.1	0.7	19	4.3	0.9	14	-0.2	41	0	1	4	8	4	2	0	5.3	31.6	26	2	0	1	5	3	2	1	14.3	42.9
386	3.5	1.1	6	3.6	1.4	9	-0.1	53	1	0	2	1	1	1	0	16.7	33.3	31	3	0	1	5	0	0	0	33.3	0.0
387	3.1	0.9	13	3.6	1.5	11	-0.5	47	2	2	4	5	0	0	0	30.8	0.0	29	4	0	1	5	1	0	0	36.4	9.1
388	4.3	0.8	34	4.5	0.6	22	-0.2	26	0	1	8	10	11	3	1	2.9	44.1	18	0	0	0	11	7	3	1	0.0	50.0
389	3.9	0.4	49	3.8	0.6	25	0.1	18	2	2	5	28	4	1	0	9.5	11.9	15	2	1	5	13	2	1	1	12.0	16.0
390	3.8	0.6	26	3.8	0.7	21	-0.1	33	2	1	7	12	4	0	0	11.5	15.4	19	1	3	3	11	2	0	1	19.0	14.3
391	3.4	0.6	9	3.9	1.6	9	-0.5	50	0	0	5	3	1	0	0	0.0	11.1	31	3	0	0	4	1	1	0	33.3	22.2
392	4.0	0.7	3	3.3	1.3	9	0.8	57	0	0	0	3	0	0	0	0.0	0.0	31	3	0	2	4	0	0	0	33.3	0.0
393	3.5	1.0	2	1.3	1.4	6	2.3	58	0	0	1	0	1	0	0	0.0	50.0	34	4	0	0	2	0	0	0	66.7	0.0
394	4.8	0.7	58	4.6	0.9	35	0.2	1	0	0	1	22	21	6	8	0.0	60.3	5	2	0	3	12	9	3	6	5.7	51.4
395	4.7	0.6	48	4.8	1.0	30	-0.1	12	0	0	4	15	25	2	2	0.0	60.4	10	0	2	1	10	7	7	3	6.7	56.7
396	4.8	0.6	55	5.1	1.0	33	-0.3	4	0	0	4	15	25	7	4	0.0	65.5	7	0	0	1	10	9	7	6	0.0	66.7
397	4.8	0.6	54	4.9	0.9	33	-0.1	4	0	0	0	21	21	9	3	0.0	61.1	7	0	1	2	10	9	7	4	3.0	60.6
398	3.5	0.8	4	2.0	1.1	5	1.5	56	0	0	2	1	0	1	0	0.0	25.0	35	2	1	1	1	0	0	0	60.0	0.0
399	2.8	0.8	5	3.3	0.6	5	-0.5	55	1	1	2	1	0	0	0	40.0	0.0	35	1	0	2	2	0	0	0	20.0	0.0
400	3.9	0.5	22	3.1	1.0	21	0.8	38	0	0	6	12	3	1	0	0.0	18.2	19	3	4	6	5	0	1	2	33.3	14.3
401	3.9	0.4	52	4.0	0.5	30	-0.2	7	0	0	13	34	5	0	0	0.0	9.6	10	2	0	5	15	5	2	1	6.7	26.7
402	3.2	1.3	12	3.0	1.1	18	0.2	47	2	2	3	2	1	2	0	33.3	25.0	22	4	2	6	3	1	0	2	33.3	16.7
403	3.8	0.6	32	3.1	1.0	19	0.8	27	3	3	4	18	3	0	1	18.8	12.5	20	2	4	6	3	2	0	2	31.6	21.1
404	3.3	0.6	14	2.8	0.8	16	0.5	46	1	1	1	5	1	0	0	14.3	7.1	24	3	3	6	3	1	0	0	37.5	6.3
405	3.9	0.5	14	3.4	0.8	13	0.5	46	0	0	4	8	1	1	0	0.0	14.3	27	3	0	4	4	2	0	0	23.1	15.4
406	3.5	0.5	8	3.0	1.5	11	0.5	54	0	0	3	3	0	0	0	0.0	0.0	28	4	0	3	2	2	0	0	36.4	18.2
407	3.9	0.5	20	3.3	0.6	14	0.6	40	0	0	6	10	3	1	0	0.0	20.0	26	1	1	6	5	1	0	0	14.3	7.1
408	4.0	0.3	1	3.5	0.8	4	0.5	59	0	0	0	1	0	0	0	0.0	0.0	36	0	1	1	2	0	0	0	25.0	0.0
409	0.0	0.0	0	2.8	0.8	8	-2.8	59	0	0	0	0	0	0	0	0.0	0.0	32	1	2	3	2	0	0	0	37.5	0.0
410	3.6	0.7	15	3.0	1.4	14	0.6	45	2	0	5	6	2	0	0	13.3	13.3	26	4	2	2	4	2	0	0	42.9	14.3
411	3.9	0.6	21	3.8	0.6	20	0.1	39	1	0	5	10	4	1	0	4.8	23.8	20	0	2	5	9	3	1	0	10.0	20.0
412	3.2	0.4	17	3.5	0.8	18	-0.3	43	0	0	12	5	0	0	0	0.0	0.0	22	2	2	5	7	2	0	0	22.2	11.1
413	3.1	0.3	6	3.3	0.8	14	-0.2	54	0	0	5	1	0	0	0	0.0	0.0	26	2	2	4	6	0	0	0	28.6	0.0
414	3.3	0.7	5	3.3	1.1	13	0.0	55	0	0	3	1	1	0	0	0.0	20.0	27	3	1	3	6	0	0	0	30.8	0.0
415	2.9	0.3	10	3.1	0.7	17	-0.3	50	1	1	8	0	0	0	0	20.0	0.0	23	2	2	7	5	0	0	1	23.5	5.9

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	O+	Y-	1Y	1M	1W	1D	D+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	O+	Y-	1Y	1M	1W	1D	D+	DES <1Y %	DES >=1W %
416	3.3	0.9	6	3.5	1.0	12	-0.3	54	0	0	4	0	2	0	0	0.0	33.3	28	1	3	2	5	1	0	0	33.3	8.3
417	2.3	0.6	5	1.4	1.1	13	0.8	55	1	2	2	0	0	0	0	60.0	0.0	25	7	1	3	2	0	0	0	61.5	0.0
418	2.0	0.9	6	2.8	1.3	9	-0.8	54	2	2	1	1	0	0	0	66.7	0.0	31	4	0	2	3	0	0	0	44.4	0.0
419	3.5	0.6	12	3.6	1.2	13	-0.1	48	0	0	6	4	2	0	0	0.0	16.7	27	3	1	2	6	1	0	0	30.8	7.7
420	3.8	0.5	15	4.4	0.7	17	-0.6	45	2	1	1	10	1	0	0	20.0	6.7	23	1	0	2	6	6	2	0	5.9	47.1
421	3.6	0.6	18	4.1	0.7	16	-0.5	42	1	2	5	10	0	0	0	16.7	0.0	24	0	1	3	7	3	2	0	6.3	31.3
422	2.8	0.7	6	3.0	1.1	13	-0.2	54	1	1	3	0	1	0	0	33.3	16.7	26	3	2	3	5	0	0	0	38.5	0.0
423	1.0	0.3	1	2.5	1.0	12	-1.5	59	1	0	0	0	0	0	0	99.9	0.0	28	4	2	4	2	0	0	0	50.0	0.0
424	1.5	2.0	2	2.3	0.9	9	-0.8	58	1	0	0	0	1	0	0	50.0	50.0	31	3	2	3	1	0	0	0	55.6	0.0
425	3.5	1.0	2	2.3	1.4	13	1.3	58	0	0	1	0	1	0	0	0.0	50.0	27	5	2	1	4	1	0	0	53.8	7.7
426	4.0	0.5	4	4.5	1.8	10	-0.5	56	0	0	1	2	1	0	0	0.0	25.0	29	2	0	1	2	2	0	3	20.0	50.0
427	3.9	0.9	14	4.8	2.0	10	-0.9	46	0	3	2	5	4	0	0	21.4	28.6	30	3	0	0	1	4	1	1	30.0	60.0
428	3.8	0.5	20	4.0	0.5	18	-0.3	40	2	0	5	12	0	1	0	10.0	5.0	22	2	1	1	10	4	0	0	16.7	22.2
429	3.0	0.8	3	1.3	1.4	6	1.8	57	0	1	1	1	0	0	0	33.3	0.0	34	4	0	0	2	0	0	0	66.7	0.0
430	3.5	0.5	2	3.6	1.5	9	-0.1	58	0	0	1	1	0	0	0	0.0	0.0	31	3	1	0	4	0	0	1	44.4	11.1
431	3.1	0.3	11	3.7	1.0	23	-0.7	49	1	0	8	1	0	1	0	9.1	9.1	17	5	1	3	11	1	1	1	26.1	13.0
432	3.3	0.7	10	3.8	0.8	16	-0.5	50	2	0	4	3	0	1	0	20.0	10.0	23	3	1	1	10	0	0	1	25.0	6.3
433	3.1	0.7	9	3.5	1.4	12	-0.4	51	1	1	4	2	1	0	0	22.2	11.1	28	4	1	1	5	0	0	1	41.7	8.3
434	3.1	0.5	7	2.8	1.2	12	0.3	53	1	0	4	1	1	0	0	14.3	14.3	28	3	2	3	3	0	0	1	41.7	8.3
435	3.6	0.6	27	3.9	0.6	27	-0.3	33	3	1	8	13	2	0	0	14.8	7.4	12	1	2	5	13	5	0	1	11.1	22.2
436	3.0	1.3	3	4.0	1.1	9	-1.0	57	1	0	1	1	0	0	0	33.3	0.0	31	2	0	1	3	2	0	1	22.2	33.3
437	4.0	1.8	3	3.7	1.4	7	0.3	57	1	0	0	1	1	0	0	33.3	33.3	33	2	1	0	3	0	0	1	42.9	14.3
438	3.9	0.5	15	4.0	0.7	24	-0.0	45	0	2	2	8	3	0	0	13.3	20.0	16	3	1	3	11	2	3	1	16.7	25.0
439	4.0	0.5	22	3.8	1.1	17	0.2	38	0	2	3	12	4	1	0	9.1	22.7	23	1	3	3	5	3	1	1	23.5	29.4
440	3.9	0.3	8	3.9	1.6	11	0.1	52	0	0	1	7	0	0	0	0.0	0.0	29	3	0	1	4	3	0	0	27.3	27.3
441	1.0	0.3	1	1.5	1.0	2	-0.5	59	1	0	0	0	0	0	0	99.9	0.0	38	1	0	1	0	0	0	0	50.0	0.0
442	0.0	0.0	0	1.5	1.4	6	-1.5	60	0	0	0	0	0	0	0	0.0	0.0	34	3	0	1	2	0	0	0	50.0	0.0
443	3.8	0.5	26	3.8	0.8	20	-0.1	34	0	1	8	15	2	0	0	3.8	7.7	20	3	1	3	9	3	1	0	20.0	20.0
444	3.3	0.5	5	3.8	0.8	5	-0.4	55	0	0	3	2	0	0	0	0.0	0.0	35	1	0	1	2	1	0	0	20.0	20.0
445	3.8	0.5	27	3.9	1.1	21	-0.1	33	1	1	7	15	2	1	0	7.4	11.1	19	1	4	3	6	6	0	1	23.8	33.3
446	3.0	0.3	1	2.5	1.3	8	0.5	59	0	0	1	0	0	0	0	0.0	0.0	32	3	1	1	3	0	0	0	50.0	0.0
447	3.6	0.5	17	3.8	0.9	19	-0.1	43	0	0	7	10	0	0	0	0.0	0.0	21	2	3	2	10	0	2	0	26.3	10.5
448	3.6	0.6	16	3.5	0.7	21	0.1	44	0	0	7	7	2	0	0	0.0	12.5	19	1	3	6	10	1	0	0	19.0	4.8
449	4.1	0.3	7	3.8	0.7	12	0.3	53	0	0	0	6	1	0	0	0.0	14.3	28	2	0	2	6	2	0	0	16.7	16.7
450	3.8	1.0	8	2.5	1.3	10	1.3	52	1	1	1	3	2	0	0	25.0	25.0	30	4	1	2	2	1	0	0	50.0	10.0

TASK	ACTUAL WORKER FREQUENCY MDN	Q	N	SUPERVISOR FREQUENCY DESIRE MDN	Q	N	D:W-S MDN	DISTRIBUTION OF WORKER FREQUENCY OF TASK PERFORMANCE NONE	0+	Y-	1Y	1M	1W	1D	0+	PERF <1Y %	PERF >=1W %	DISTRIBUTION OF SUPERVISOR DESIRES FOR TASK FREQUENCY NONE	0+	Y-	1Y	1M	1W	1D	0+	DES <1Y %	DES >=1W %
451	4.1	0.5	11	3.7	1.4	12	0.4	49	0	0	2	6	3	0	0	0.0	27.3	28	3	1	1	5	2	0	0	33.3	16.7
452	3.5	0.6	26	3.8	0.5	17	-0.3	34	0	1	12	10	3	0	0	3.8	11.5	23	1	1	3	11	0	1	0	11.8	5.9
453	4.0	0.3	2	3.8	1.3	5	0.3	58	0	0	0	2	0	0	0	0.0	0.0	34	1	1	0	2	0	0	1	40.0	20.0
454	3.0	0.3	1	4.5	1.9	6	-1.5	59	0	0	1	0	0	0	0	0.0	0.0	34	1	0	1	1	1	0	2	16.7	50.0
455	3.0	0.3	1	1.3	1.7	5	1.7	59	0	0	1	0	0	0	0	0.0	0.0	35	3	0	0	1	0	0	1	60.0	20.0
456	0.0	0.0	0	1.5	1.8	4	-1.5	60	0	0	0	0	0	0	0	0.0	0.0	36	2	0	0	1	0	0	1	50.0	25.0
457	3.4	0.5	18	3.5	1.3	14	-0.1	42	1	0	9	8	0	0	0	5.6	0.0	26	4	2	1	7	0	0	0	42.9	0.0
458	3.4	0.7	9	1.4	1.3	7	2.0	51	0	0	5	2	2	0	0	0.0	22.2	33	4	0	1	2	0	0	0	57.1	0.0
459	1.5	1.5	2	1.5	1.1	6	0.0	58	1	0	0	1	0	0	0	50.0	0.0	34	3	0	2	1	0	0	0	50.0	0.0
460	3.8	0.7	28	3.7	1.2	18	0.1	32	1	2	8	11	6	0	0	10.7	21.4	22	4	2	1	9	1	0	1	33.3	11.1
461	3.7	0.9	29	3.9	0.7	17	-0.2	31	2	2	9	7	8	1	0	13.8	31.0	22	1	2	2	8	3	0	1	17.6	23.5
462	4.1	0.4	34	3.9	0.6	22	0.2	26	0	1	3	22	7	0	1	2.9	23.5	16	3	0	4	11	1	1	2	13.6	18.2
463	4.1	0.5	28	4.1	0.6	17	-0.0	32	0	1	5	14	7	1	0	3.6	28.6	22	1	0	2	9	3	0	2	5.9	29.4
464	3.6	0.7	19	3.2	1.5	14	0.4	41	0	2	7	7	3	0	0	10.5	15.8	25	4	1	3	3	2	0	1	35.7	21.4
465	3.9	0.4	13	3.6	0.9	15	0.4	47	1	0	2	8	2	0	0	7.7	15.4	25	2	2	3	6	1	0	1	26.7	13.3
466	4.1	0.5	35	4.0	0.6	24	0.1	25	0	1	5	18	9	2	0	2.9	31.4	15	1	1	4	11	5	0	2	8.3	29.2
467	4.0	0.8	26	3.7	0.9	22	0.3	33	2	1	5	10	7	1	0	11.5	30.8	17	3	2	4	9	3	0	1	22.7	18.2
468	3.6	0.6	20	3.7	1.0	15	-0.1	40	0	2	7	9	2	0	0	10.0	10.0	25	3	1	2	7	2	0	0	26.7	13.3
469	3.2	0.8	13	3.6	0.6	16	-0.4	47	0	3	5	3	2	0	0	23.1	15.4	24	0	1	6	7	1	0	1	6.3	12.5
470	3.0	0.5	4	3.4	0.6	9	-0.4	56	0	1	2	1	0	0	0	25.0	0.0	31	1	0	4	3	0	0	1	11.1	11.1
471	3.8	0.4	3	2.5	1.0	10	1.3	57	0	0	1	2	0	0	0	0.0	0.0	30	4	1	4	1	0	0	0	50.0	0.0
472	3.7	0.7	10	3.9	1.2	13	-0.2	50	0	2	2	5	1	0	0	20.0	10.0	27	2	2	0	6	1	0	2	30.8	23.1
473	3.8	0.3	4	1.4	1.3	7	2.5	56	0	0	1	3	0	0	0	0.0	0.0	32	4	0	1	2	0	0	0	57.1	0.0
474	3.8	0.9	7	3.7	0.5	10	0.1	51	0	1	2	2	1	1	0	14.3	28.6	30	1	0	3	6	0	0	0	10.0	0.0
TOTALS:								21542	283	252	1311	2707	1443	490	288			12408	830	299	893	2127	1119	579	620		

Table C-5

Time to Qualify (Q7)[a]

Question 7: Time to Qualify (Supervisors)

By your standards as a supervisor of one or more Business Data Programmers, when do you expect that a new Business Data Programmer employee would be capable of satisfactorily performing each of the activities you checked? That is, how soon after beginning employment as a Business Data Programmer do you feel that employees should be able to do each activity with reasonable competency?

Categories and Values of the Response Scale:

1 = Competent performance is never necessary (0).
2 = Some number of years beyond the first 3 (Y+).
3 = Within the first 3 years (3Y).
4 = Within the first year (Y).
5 = Within the first 6 months (6M).
6 = Within the first 3 months (3M).
7 = Within the first month (M).
8 = Within the first week on the job (W).

Each of the 14 columns of Table C-5 is identified below.

Column 73: Average (median) of supervisor ratings, considering only those who checked (Question 2) that the task should be performed.

Column 74: Quartile deviation showing degree of response variability.

Column 75: Number of supervisors rating the task (Question 7).

Columns 76 through 84: Number of supervisors using each level of the time scale. Column 76 (None) is the complement of that portion of Column 8 (Table C-1) represented by the 40 supervisors in Group 1.

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[a]Question 7 was answered only for those tasks checked on Q2.

Table C-5-continued

Column 85: Percent of supervisors of those indicating the task should be done (Question 2), who do not expect competent performance during a worker's first year of job experience (combining scale categories 3Y, Y+, and O).

Column 86: Percent of supervisors of those indicating the task should be done (Question 2), who expect competent performance within a worker's first three months of job experience (combining scale categories 3M, M, and W).

TASK INVENTORY DATA SUMMARY
PROGRAMMERS — COMPOSITE

TABLE 5: TIME TO QUALIFY (Q7)

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS									% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W		
1	3.50	0.83	8	32	0	2	2	3	0	0	1	0	50.0	12.5
2	4.08	0.83	28	12	0	0	7	12	3	2	4	0	25.0	21.4
3	6.11	0.86	29	11	0	0	0	4	5	9	10	1	0.0	69.0
4	4.86	1.04	29	11	0	1	2	9	7	5	5	0	10.3	34.5
5	5.71	0.79	21	19	0	0	0	3	6	7	4	1	0.0	57.1
6	5.83	0.96	12	28	0	0	0	2	3	3	4	0	0.0	58.3
7	5.00	1.43	23	17	0	1	5	3	5	4	2	3	26.1	39.1
8	3.50	0.80	24	16	1	1	10	6	1	5	0	0	50.0	20.8
9	4.00	0.97	15	25	0	1	4	5	2	3	0	0	33.3	20.0
10	3.14	0.60	13	27	0	2	7	2	2	0	0	0	69.2	0.0
11	3.63	0.74	13	27	0	1	5	4	2	1	0	0	46.2	7.7
12	4.50	1.00	10	30	0	1	3	1	5	0	0	0	40.0	0.0
13	6.50	1.00	6	34	0	0	0	1	0	2	1	2	0.0	83.3
14	4.43	0.97	23	16	0	0	5	7	5	5	1	0	21.7	26.1
15	3.94	0.67	19	20	0	1	5	8	3	2	0	0	31.6	10.5
16	3.50	0.75	4	36	0	0	2	1	1	0	0	0	50.0	0.0
17	5.25	1.31	5	35	0	1	0	0	2	0	1	1	20.0	40.0
18	5.00	1.00	8	32	0	1	0	2	2	2	1	0	12.5	37.5
19	4.50	0.83	18	22	0	0	4	5	6	2	1	0	22.2	16.7
20	5.00	1.25	15	24	0	0	2	3	5	1	3	1	13.3	33.3
21	4.00	1.13	7	33	0	1	0	1	2	1	0	0	42.9	14.3
22	3.00	0.35	7	33	1	0	5	1	0	0	0	0	85.7	0.0
23	4.13	0.31	5	35	0	0	0	4	0	0	1	0	0.0	20.0
24	3.00	1.17	8	32	0	3	2	1	2	0	0	0	62.5	0.0
25	2.83	0.75	8	32	1	2	3	2	0	0	0	0	75.0	0.0
26	6.14	0.36	16	24	0	0	0	0	1	11	3	1	0.0	93.8
27	4.69	0.73	21	19	0	0	3	6	8	4	0	0	14.3	19.0
28	4.88	0.47	7	33	0	0	0	2	4	0	1	0	0.0	14.3
29	4.70	1.02	12	28	0	0	4	1	5	2	0	0	33.3	16.7
30	3.63	0.59	7	33	0	1	2	4	0	0	0	0	42.9	0.0

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	O	Y+	3Y	Y	6M	3M	M	W	
31	5.00	0.71	10	30	0	0	0	3	4	2	0	1	0.0	30.0
32	4.75	0.44	3	37	0	0	0	1	2	0	0	0	0.0	0.0
33	4.50	1.25	4	36	0	0	1	1	0	2	0	0	25.0	50.0
34	4.50	1.10	14	26	1	0	1	5	3	1	3	0	14.3	28.6
35	4.75	0.63	5	34	0	0	0	2	2	1	0	0	0.0	20.0
36	4.70	1.19	24	15	1	0	3	7	5	3	3	2	16.7	33.3
37	4.75	0.86	25	15	1	0	0	10	6	7	1	0	4.0	32.0
38	4.50	1.13	6	34	1	0	1	1	2	1	0	0	33.3	16.7
39	5.30	1.27	22	17	1	0	1	5	5	3	6	1	9.1	45.5
40	5.60	1.65	9	31	1	1	1	1	0	5	0	0	33.3	55.6
41	4.88	0.31	5	35	1	0	0	0	4	0	0	0	20.0	0.0
42	5.81	0.84	27	13	0	0	1	2	8	8	8	0	3.7	59.3
43	3.75	0.63	8	32	1	0	2	4	0	1	0	0	37.5	12.5
44	1.50	1.00	2	38	1	0	1	0	0	0	0	0	100.0	0.0
45	4.67	1.04	10	30	1	1	1	1	6	0	0	0	30.0	0.0
46	2.00	1.25	3	36	1	1	0	1	0	0	0	0	66.7	0.0
47	4.33	1.08	16	24	2	0	1	6	2	3	2	0	18.8	31.3
48	6.83	2.83	4	36	1	0	0	0	0	0	3	0	25.0	75.0
49	5.13	1.13	11	29	0	0	1	2	4	1	2	1	9.1	36.4
50	3.00	0.25	1	39	0	0	1	0	0	0	0	0	100.0	0.0
51	4.00	2.06	5	35	1	1	0	1	0	2	0	0	40.0	40.0
52	4.75	1.31	5	35	1	0	1	0	2	1	0	0	40.0	20.0
53	4.25	1.33	7	33	1	0	1	2	0	3	0	0	28.6	42.9
54	3.50	0.83	8	31	1	1	2	3	0	1	0	0	50.0	12.5
55	3.00	1.25	3	37	1	0	1	1	0	0	0	0	66.7	0.0
56	3.75	1.44	3	36	1	0	0	2	0	0	0	0	33.3	0.0
57	2.83	0.83	4	35	1	0	3	0	0	0	0	0	100.0	0.0
58	3.83	0.67	6	33	0	1	1	3	1	0	0	0	33.3	0.0
59	5.29	0.86	21	18	1	0	1	3	7	5	4	0	9.5	42.9
60	4.13	1.09	15	25	2	1	2	4	4	2	0	0	33.3	13.3
61	5.36	0.68	20	19	1	0	1	2	7	8	1	0	10.0	45.0
62	0.0	0.0	0	40	0	0	0	0	0	0	0	0	0.0	0.0
63	4.67	0.67	5	34	1	0	0	1	3	0	0	0	20.0	0.0
64	5.83	0.67	6	33	1	0	0	0	1	3	1	0	16.7	66.7
65	5.36	0.93	26	13	1	0	0	6	7	7	5	0	3.8	46.2

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS									% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W		
66	3.33	0.69	7	33	0	1	3	2	1	0	0	0	57.1	0.0
67	2.17	0.67	6	33	1	3	1	1	0	0	0	0	83.3	0.0
68	4.50	2.50	8	31	2	0	0	2	1	1	2	0	25.0	37.5
69	1.50	2.25	4	35	2	0	0	0	1	0	1	0	50.0	25.0
70	1.00	0.25	1	39	1	0	0	0	0	0	0	0	100.0	0.0
71	3.00	1.00	4	36	1	0	2	0	0	1	0	0	75.0	25.0
72	4.50	1.00	4	36	0	0	0	2	0	2	0	0	0.0	50.0
73	5.17	0.33	4	36	0	0	0	0	3	0	1	0	0.0	25.0
74	3.83	0.33	4	36	0	0	1	3	0	0	0	0	25.0	0.0
75	3.75	1.44	3	37	1	0	0	2	0	0	0	0	33.3	0.0
76	1.00	0.25	1	39	1	0	0	0	0	0	0	0	100.0	0.0
77	3.94	0.58	17	23	1	0	4	8	2	2	0	0	29.4	11.8
78	4.31	0.81	23	17	0	0	5	8	6	1	3	0	21.7	17.4
79	3.15	0.63	28	12	0	3	17	2	5	1	0	0	71.4	3.6
80	4.90	0.96	16	24	0	0	3	3	5	4	1	0	18.8	31.3
81	4.67	0.85	29	11	1	0	4	8	9	4	3	0	17.2	24.1
82	5.23	1.08	34	6	0	0	4	5	11	5	8	1	11.8	41.2
83	4.17	1.04	32	8	0	2	8	9	6	6	1	0	31.3	21.9
84	4.38	0.96	35	5	0	2	4	13	6	9	1	0	17.1	28.6
85	5.13	0.72	29	11	0	0	1	6	12	6	4	0	3.4	34.5
86	4.85	0.77	35	5	0	0	4	9	13	4	5	0	11.4	25.7
87	5.09	0.93	35	5	0	0	4	7	11	8	4	1	11.4	37.1
88	2.00	0.42	5	35	1	3	0	0	1	0	0	0	80.0	0.0
89	4.07	1.13	20	20	0	2	4	7	2	5	0	0	30.0	25.0
90	3.83	0.75	24	16	2	1	6	9	3	0	2	1	37.5	12.5
91	4.00	0.86	22	17	0	0	7	8	3	3	1	0	31.8	18.2
92	4.50	1.13	16	24	1	0	4	3	4	4	0	0	31.3	25.0
93	3.72	0.76	20	20	1	3	4	9	0	0	3	0	40.0	15.0
94	3.75	1.00	12	28	2	1	2	4	3	0	0	0	41.7	0.0
95	4.88	0.84	9	31	2	0	0	1	4	1	0	1	22.2	22.2
96	2.83	0.57	18	22	1	5	9	3	0	0	0	0	83.3	0.0
97	2.94	0.60	20	20	1	5	9	2	3	0	0	0	75.0	0.0
98	3.67	1.17	5	35	1	1	0	3	0	0	0	0	40.0	0.0
99	3.05	0.56	22	18	1	4	11	3	3	0	0	0	72.7	0.0
100	4.90	1.19	24	16	0	0	6	4	5	8	1	0	25.0	37.5

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W	
101	4.36	1.29	35	5	0	1	7	11	2	8	6	0	22.9	40.0
102	4.63	0.83	28	12	0	1	3	9	8	5	2	0	14.3	25.0
103	2.86	0.42	11	29	0	3	7	1	0	0	0	0	90.9	0.0
104	5.42	1.05	23	17	0	0	1	5	6	5	5	1	4.3	47.8
105	6.25	1.31	21	18	0	1	0	4	4	2	7	3	4.8	57.1
106	3.97	0.51	30	9	0	0	8	15	4	2	0	1	26.7	10.0
107	3.61	0.67	20	20	0	3	6	9	2	0	0	0	45.0	0.0
108	4.60	1.01	32	8	0	1	8	6	10	6	1	0	28.1	21.9
109	2.80	0.79	15	25	1	5	5	2	1	1	0	0	73.3	6.7
110	4.21	0.71	20	20	0	2	3	7	7	0	1	0	25.0	5.0
111	3.79	0.69	20	20	0	0	8	7	4	1	0	0	40.0	5.0
112	4.30	0.69	24	16	0	1	3	10	7	3	0	0	16.7	12.5
113	6.88	1.44	19	21	1	0	2	0	4	1	4	7	15.8	63.2
114	6.00	1.23	13	27	0	1	1	0	3	3	2	3	15.4	61.5
115	5.25	0.82	34	6	0	0	2	6	12	8	6	0	5.9	41.2
116	5.63	0.88	28	12	1	0	3	1	8	8	7	0	14.3	53.6
117	3.83	1.20	24	16	1	1	8	6	4	4	0	0	41.7	16.7
118	3.17	0.65	14	26	2	1	6	4	0	0	0	1	64.3	7.1
119	3.20	0.80	17	23	0	5	5	6	0	1	0	0	58.8	5.9
120	3.50	1.24	18	22	0	2	7	2	3	1	3	0	50.0	22.2
121	3.03	0.30	19	21	0	1	16	2	0	0	0	0	89.5	0.0
122	2.80	0.65	13	27	0	5	5	3	0	0	0	0	76.9	0.0
123	2.83	0.83	4	36	1	0	3	0	0	0	0	0	100.0	0.0
124	4.33	1.35	13	27	0	0	4	3	1	3	2	0	30.8	38.5
125	3.64	0.75	24	16	0	1	10	7	0	5	1	0	45.8	25.0
126	3.67	0.67	23	17	0	2	8	9	2	2	0	0	43.5	8.7
127	3.50	0.79	16	24	1	0	7	4	3	1	0	0	50.0	6.3
128	4.80	1.18	19	21	0	0	5	3	5	4	2	0	26.3	31.6
129	3.60	0.60	13	27	0	0	6	5	1	0	1	0	46.2	7.7
130	3.10	0.67	12	28	0	3	5	3	0	1	0	0	66.7	8.3
131	2.33	1.00	7	33	1	3	1	1	0	1	0	0	71.4	14.3
132	3.00	0.90	16	24	1	5	4	5	0	1	0	0	62.5	6.3
133	2.70	0.60	10	30	1	3	5	1	0	0	0	0	90.0	0.0
134	3.63	1.70	15	25	1	4	2	4	0	3	1	0	46.7	26.7
135	3.75	0.69	13	27	0	2	3	6	1	1	0	0	38.5	7.7

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W		
136	2.50	0.50	4	36	0	2	2	0	0	0	0	0	100.0	0.0
137	2.67	0.69	7	33	1	2	3	1	0	0	0	0	85.7	0.0
138	2.50	1.00	4	36	1	1	1	1	0	0	0	0	75.0	0.0
139	3.50	0.75	8	32	1	1	2	4	0	0	0	0	50.0	0.0
140	3.42	0.90	15	25	0	2	6	3	3	1	0	0	53.3	6.7
141	3.25	0.90	16	24	0	5	4	5	0	1	1	0	56.3	12.5
142	2.25	0.63	5	34	1	2	2	0	0	0	0	0	100.0	0.0
143	4.63	1.09	21	19	0	0	2	8	4	3	3	1	9.5	33.3
144	4.50	1.50	6	34	0	0	1	2	0	1	2	0	16.7	50.0
145	5.67	0.94	11	29	0	0	0	2	3	3	2	1	0.0	54.5
146	5.67	0.92	11	29	0	0	0	2	3	3	3	0	0.0	54.5
147	6.50	0.95	16	24	0	0	0	0	6	2	7	1	0.0	62.5
148	6.00	1.33	8	32	0	0	0	3	0	2	3	0	0.0	62.5
149	4.50	1.33	8	32	1	0	0	3	1	1	1	1	12.5	37.5
150	4.42	0.76	15	25	0	0	2	6	4	1	1	1	13.3	20.0
151	3.75	1.44	3	37	1	0	0	2	0	0	0	0	33.3	0.0
152	4.25	1.69	7	33	1	0	1	2	1	0	2	0	28.6	28.6
153	1.50	3.00	2	38	1	0	0	0	0	0	1	0	50.0	50.0
154	4.00	0.69	7	33	0	0	2	3	1	0	1	0	28.6	14.3
155	4.88	1.36	27	13	0	1	5	6	4	5	4	2	22.2	40.7
156	4.42	0.88	21	19	0	1	4	4	6	4	0	0	23.8	19.0
157	2.50	0.50	8	32	0	4	4	0	0	0	0	0	100.0	0.0
158	3.75	1.44	3	37	1	0	0	2	0	0	0	0	33.3	0.0
159	5.00	1.25	16	24	0	1	3	2	4	4	2	0	25.0	37.5
160	5.00	1.13	14	[illegible]	1	1	1	2	4	3	2	0	21.4	35.7
161	6.83	0.67	6	34	0	0	0	0	1	1	3	1	0.0	83.3
162	6.00	0.25	1	39	0	0	0	0	0	1	0	0	0.0	100.0
163	4.00	0.92	12	28	0	1	3	4	2	1	1	0	33.3	16.7
164	3.50	0.50	2	38	0	0	1	1	0	0	0	0	50.0	0.0
165	5.83	1.17	6	34	0	0	1	1	0	3	1	0	16.7	66.7
166	7.00	0.25	1	39	0	0	0	0	0	0	1	0	0.0	100.0
167	4.17	1.06	14	26	0	2	3	3	4	0	1	1	35.7	14.3
168	5.00	0.94	17	23	0	0	2	4	5	4	1	1	11.8	35.3
169	3.92	0.77	17	23	0	0	6	6	3	1	0	1	35.3	11.8
170	4.00	0.95	12	28	0	0	5	2	4	1	0	0	41.7	8.3

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W	
171	4.67	0.90	20	20	0	1	3	5	6	4	1	0	20.0	25.0
172	6.00	1.56	23	17	1	1	2	3	3	3	6	4	17.4	56.5
173	4.00	1.00	10	30	1	0	3	2	3	0	1	0	40.0	10.0
174	4.20	1.09	21	19	0	0	7	5	4	4	1	0	33.3	23.8
175	6.17	1.20	12	28	0	0	1	2	1	3	5	0	8.3	66.7
176	5.75	1.03	11	29	0	0	0	2	3	2	4	0	0.0	54.5
177	4.28	0.76	20	20	0	1	2	9	4	3	1	0	15.0	20.0
178	5.42	0.74	19	21	0	0	0	4	6	7	2	0	0.0	47.4
179	4.00	0.25	1	39	0	0	0	1	0	0	0	0	0.0	0.0
180	5.53	0.91	11	29	0	1	1	1	3	4	1	0	18.2	45.5
181	7.33	0.53	12	28	0	0	0	0	0	1	6	5	0.0	100.0
182	7.13	0.47	7	33	0	0	0	0	1	0	4	2	0.0	85.7
183	7.83	1.83	4	36	0	0	0	1	0	0	0	3	0.0	75.0
184	7.13	0.31	10	30	0	0	0	0	0	0	8	2	0.0	100.0
185	7.75	0.44	3	37	0	0	0	0	0	0	1	2	0.0	100.0
186	5.75	0.94	7	33	1	0	0	0	2	2	1	1	14.3	57.1
187	6.00	1.28	11	29	1	0	1	1	1	3	4	0	18.2	63.6
188	6.83	0.46	10	30	0	0	0	0	0	3	6	1	0.0	100.0
189	7.57	0.61	13	27	0	0	0	0	1	1	4	7	0.0	92.3
190	7.88	0.31	5	35	0	0	0	0	1	0	0	4	0.0	80.0
191	6.71	0.63	13	27	0	0	0	1	1	3	7	1	0.0	84.6
192	7.80	0.39	7	33	0	0	0	0	0	0	2	5	0.0	100.0
193	7.00	1.25	3	37	0	0	0	0	1	0	1	1	0.0	66.7
194	8.00	0.25	2	38	0	0	0	0	0	0	0	2	0.0	100.0
195	7.00	0.42	5	35	0	0	0	0	1	0	3	1	0.0	80.0
196	7.60	0.57	18	21	1	0	0	0	1	0	6	10	5.6	88.9
197	6.90	0.70	10	30	0	0	0	0	2	1	5	2	0.0	80.0
198	7.00	0.25	2	38	0	0	0	0	0	0	2	0	0.0	100.0
199	1.50	3.50	2	38	1	0	0	0	0	0	0	1	50.0	50.0
200	6.25	1.13	19	21	1	0	1	1	5	2	7	2	10.5	57.9
201	5.50	1.75	4	36	0	0	0	1	1	0	0	2	0.0	50.0
202	7.75	1.19	9	31	1	0	0	0	1	1	0	6	11.1	77.8
203	5.50	1.25	12	28	0	0	0	2	4	0	4	2	0.0	50.0
204	7.00	0.65	14	26	0	0	0	0	1	3	6	4	0.0	92.9
205	7.13	0.47	21	19	0	0	0	0	1	2	12	6	0.0	95.2

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W	
206	6.65	0.67	23	17	0	0	0	0	3	7	10	3	0.0	87.0
207	8.00	0.25	1	39	0	0	0	0	0	0	0	1	0.0	100.0
208	7.00	0.95	12	28	0	0	0	0	1	4	2	5	0.0	91.7
209	3.90	0.40	8	32	0	0	2	5	1	0	0	0	25.0	0.0
210	0.0	0.0	0	40	0	0	0	0	0	0	0	0	0.0	0.0
211	6.63	0.69	11	29	0	0	0	1	0	4	4	2	0.0	90.9
212	6.67	0.54	10	30	0	0	0	1	0	3	6	0	0.0	90.0
213	6.70	0.47	8	31	0	0	0	0	0	3	5	0	0.0	100.0
214	0.0	0.0	0	40	0	0	0	0	0	0	0	0	0.0	0.0
215	6.40	0.55	11	29	0	0	0	0	1	5	5	0	0.0	90.9
216	6.64	0.54	12	28	0	0	0	0	1	4	7	0	0.0	91.7
217	7.00	0.79	12	28	0	0	0	0	1	3	4	4	0.0	91.7
218	6.55	0.63	25	15	0	0	0	0	2	10	10	3	0.0	92.0
219	6.22	0.63	21	19	0	0	0	0	4	9	7	1	0.0	81.0
220	6.28	0.46	14	26	0	0	0	0	0	9	5	0	0.0	100.0
221	6.20	0.94	19	21	0	0	0	3	3	5	7	1	0.0	68.4
222	7.88	0.31	5	35	0	0	0	0	0	1	0	4	0.0	100.0
223	6.00	0.25	1	39	0	0	0	0	0	1	0	0	0.0	100.0
224	5.43	1.11	21	19	0	0	0	4	7	2	7	1	0.0	47.6
225	3.83	0.83	4	36	0	1	0	3	0	0	0	0	25.0	0.0
226	5.00	1.16	15	25	0	0	0	5	5	1	4	0	0.0	33.3
227	7.17	0.54	6	34	0	0	0	0	1	0	3	2	0.0	83.3
228	6.83	1.00	8	32	0	0	0	0	2	1	3	2	0.0	75.0
229	5.50	0.83	8	32	0	1	0	1	2	3	1	0	12.5	50.0
230	6.75	0.98	11	29	0	0	2	0	1	1	6	1	18.2	72.7
231	7.00	0.25	2	38	0	0	0	0	0	0	2	0	0.0	100.0
232	0.0	0.0	0	40	0	0	0	0	0	0	0	0	0.0	0.0
233	0.0	0.0	0	40	0	0	0	0	0	0	0	0	0.0	0.0
234	6.75	1.44	3	37	0	0	0	1	0	0	2	0	0.0	66.7
235	6.00	0.75	3	37	0	0	0	0	1	1	1	0	0.0	66.7
236	6.31	0.72	25	15	0	0	0	2	4	8	10	1	0.0	76.0
237	5.83	0.75	8	32	0	0	0	1	2	3	2	0	0.0	62.5
238	6.00	3.25	3	37	1	0	0	0	0	1	0	1	33.3	66.7
239	6.50	3.00	4	36	1	0	0	0	0	1	1	1	25.0	75.0
240	4.20	1.17	15	25	0	1	3	5	2	1	3	0	26.7	26.7

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W	
241	4.20	0.99	11	29	0	0	2	5	1	2	0	1	18.2	27.3
242	3.00	0.25	3	37	0	0	3	0	0	0	0	0	100.0	0.0
243	3.75	0.63	10	30	0	0	4	4	1	1	0	0	40.0	10.0
244	3.25	0.81	5	34	0	1	2	1	1	0	0	0	60.0	0.0
245	3.63	0.59	7	33	0	1	2	4	0	0	0	0	42.9	0.0
246	4.38	1.34	13	27	0	2	1	4	2	1	3	0	23.1	30.8
247	4.50	1.75	4	36	0	0	1	1	0	0	2	0	25.0	50.0
248	3.75	1.01	19	21	0	2	7	2	8	0	0	0	47.4	0.0
249	3.30	0.75	16	24	1	3	5	6	1	0	0	0	56.3	0.0
250	3.13	1.08	11	29	0	3	4	1	3	0	0	0	63.6	0.0
251	2.83	0.67	8	32	0	3	3	1	0	1	0	0	75.0	12.5
252	4.88	0.97	23	17	0	0	2	8	4	8	1	0	8.7	39.1
253	4.50	0.94	20	20	0	0	6	4	7	2	1	0	30.0	15.0
254	4.88	1.04	23	17	0	0	3	7	4	7	2	0	13.0	39.1
255	6.64	0.75	27	13	0	0	0	1	4	7	11	4	0.0	81.5
256	2.33	0.48	5	35	0	3	2	0	0	0	0	0	100.0	0.0
257	5.75	0.94	3	37	0	0	0	1	0	2	0	0	0.0	66.7
258	3.33	0.48	5	35	0	0	3	2	0	0	0	0	60.0	0.0
259	3.83	0.33	4	36	0	0	1	3	0	0	0	0	25.0	0.0
260	6.00	0.42	5	35	0	0	0	0	1	3	1	0	0.0	80.0
261	6.00	0.25	3	37	0	0	0	0	0	3	0	0	0.0	100.0
262	6.00	0.25	3	37	0	0	0	0	0	3	0	0	0.0	100.0
263	6.17	0.54	6	34	0	0	0	0	1	3	2	0	0.0	83.3
264	6.00	0.25	3	37	0	0	0	0	0	3	0	0	0.0	100.0
265	6.33	0.67	5	35	0	0	0	0	0	3	1	1	0.0	100.0
266	4.50	1.25	4	36	0	0	1	1	0	2	0	0	25.0	50.0
267	4.14	0.94	11	29	0	0	1	7	0	2	1	0	9.1	27.3
268	4.38	0.89	18	22	0	1	1	8	3	5	0	0	11.1	27.8
269	5.00	0.75	6	34	0	0	0	2	2	2	0	0	0.0	33.3
270	3.00	1.00	6	34	1	1	2	1	0	0	1	0	66.7	16.7
271	2.25	0.81	5	35	1	2	1	1	0	0	0	0	80.0	0.0
272	2.00	1.25	3	37	1	1	0	1	0	0	0	0	66.7	0.0
273	5.00	1.00	4	36	0	0	1	0	2	1	0	0	25.0	25.0
274	3.75	0.94	3	37	0	1	0	2	0	0	0	0	33.3	0.0
275	4.00	0.25	2	38	0	0	0	2	0	0	0	0	0.0	0.0

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISORY EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M		
276	3.50	0.63	6	34	0	0	3	2	1	0	0	50.0	0.0
277	5.00	0.88	6	34	0	0	0	2	2	1	1	0.0	33.3
278	6.58	1.48	11	29	0	0	1	3	0	1	6	9.1	63.6
279	6.50	1.38	6	34	0	0	0	2	0	1	3	0.0	66.7
280	4.00	0.50	4	36	0	0	1	2	0	1	0	25.0	25.0
281	4.00	0.50	4	36	0	0	1	2	1	0	0	25.0	0.0
282	4.17	0.33	4	36	0	0	0	3	1	0	0	0.0	0.0
283	3.17	0.33	4	36	0	0	3	0	1	0	0	75.0	0.0
284	4.00	0.45	9	31	0	0	2	5	1	1	0	22.2	11.1
285	4.20	0.75	9	31	0	0	1	5	1	1	1	11.1	22.2
286	3.75	0.44	3	37	0	0	1	2	0	0	0	33.3	0.0
287	3.00	0.25	4	36	0	0	4	0	0	0	0	100.0	0.0
288	3.50	0.75	4	36	0	1	1	2	0	0	0	50.0	0.0
289	3.00	0.88	6	34	0	2	2	1	1	0	0	66.7	0.0
290	5.00	1.00	9	31	0	0	1	2	3	1	2	11.1	33.3
291	4.38	0.78	9	31	0	0	1	4	2	1	1	11.1	22.2
292	5.88	0.84	9	31	0	0	0	2	1	4	1	0.0	66.7
293	5.50	0.50	2	38	0	0	0	0	1	1	0	0.0	50.0
294	4.00	0.25	2	38	0	0	0	2	0	0	0	0.0	0.0
295	4.11	0.81	17	23	0	1	2	9	1	1	2	1	17.6	23.5
296	4.38	1.00	27	13	0	1	2	12	3	7	2	0	11.1	33.3
297	5.19	0.79	32	8	0	0	1	6	13	6	6	0	3.1	37.5
298	5.00	0.84	37	3	0	0	1	12	11	10	0	3	2.7	35.1
299	4.94	1.04	31	9	0	0	5	7	8	7	4	0	16.1	35.5
300	4.86	1.03	31	9	0	0	5	8	7	8	3	0	16.1	35.5
301	3.63	0.69	11	29	0	1	4	4	1	1	0	0	45.5	9.1
302	5.09	0.78	29	11	0	0	1	7	11	6	4	0	3.4	34.5
303	5.38	1.00	16	24	0	0	3	1	5	3	3	1	18.8	43.8
304	5.00	1.16	9	31	0	1	1	2	1	4	0	0	22.2	44.4
305	5.90	1.12	22	18	0	0	2	3	4	5	7	1	9.1	59.1
306	6.13	0.48	28	12	0	0	0	2	2	16	7	1	0.0	85.7
307	6.18	0.68	29	11	0	0	1	1	5	11	10	1	3.4	75.9
308	4.36	1.06	31	9	0	1	5	11	4	8	2	0	19.4	32.3
309	6.57	0.71	34	6	0	0	0	2	4	10	14	4	0.0	82.4
310	5.56	1.19	25	15	1	0	3	6	2	9	3	1	16.0	52.0

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W		
311	6.14	0.69	19	21	0	0	0	1	4	7	7	0	0.0	73.7
312	6.29	0.80	23	17	0	0	1	1	4	7	8	2	4.3	73.9
313	5.50	1.08	30	10	1	0	1	7	6	8	6	1	6.7	50.0
314	3.94	0.41	13	27	1	0	2	8	1	1	0	0	23.1	7.7
315	4.23	0.96	31	8	0	2	4	13	4	4	4	0	19.4	25.8
316	3.90	0.60	22	18	0	1	6	10	2	1	2	0	31.8	13.6
317	5.00	1.08	32	8	0	1	1	11	6	7	5	1	6.3	40.6
318	6.13	0.64	38	2	0	0	0	2	7	16	11	2	0.0	76.3
319	4.83	1.03	26	14	0	0	4	7	6	6	3	0	15.4	34.6
320	5.85	0.71	23	17	0	0	2	3	2	13	2	1	8.7	69.6
321	5.36	1.05	36	4	0	0	4	8	7	11	5	1	11.1	47.2
322	4.50	1.25	4	36	0	0	1	1	0	2	0	0	25.0	50.0
323	5.25	0.83	29	11	0	0	3	4	10	7	5	0	10.3	41.4
324	3.00	0.25	3	37	0	0	3	0	0	0	0	0	100.0	0.0
325	3.90	0.79	16	24	0	0	6	5	4	0	1	0	37.5	6.3
326	5.89	0.76	30	9	0	1	1	4	8	12	4	0	6.7	53.3
327	4.30	0.95	12	28	0	0	5	2	4	1	0	0	41.7	8.3
328	5.00	0.75	7	33	0	0	1	1	3	1	1	0	14.3	28.6
329	5.20	0.77	13	27	0	0	0	3	5	3	2	0	0.0	38.5
330	6.62	0.48	31	8	0	0	0	0	7	12	10	2	0.0	77.4
331	6.73	0.51	28	10	0	0	0	0	2	9	13	4	0.0	92.9
332	4.31	1.02	23	16	0	1	4	8	4	2	4	0	21.7	26.1
333	5.13	1.04	21	19	0	0	3	5	4	7	2	0	14.3	42.9
334	5.00	0.83	27	12	0	0	3	6	9	8	1	0	11.1	33.3
335	3.50	1.00	4	36	0	0	2	0	2	0	0	0	50.0	0.0
336	4.63	0.81	16	24	0	0	4	3	8	1	0	0	25.0	6.3
337	5.17	0.98	20	19	0	1	0	5	6	4	3	1	5.0	40.0
338	4.44	0.97	29	10	1	1	5	8	7	3	4	0	24.1	24.1
339	4.17	1.06	22	17	0	1	6	6	4	5	0	0	31.8	22.7
340	3.25	1.27	14	25	0	4	4	0	6	0	0	0	57.1	0.0
341	4.30	0.98	24	15	0	2	6	5	8	3	0	0	33.3	12.5
342	4.17	0.92	22	18	0	1	6	6	6	3	0	0	31.8	13.6
343	3.72	0.73	28	11	0	1	11	9	5	2	0	0	42.9	7.1
344	3.50	0.92	14	26	0	1	6	3	2	1	1	0	50.0	14.3
345	3.13	0.43	19	20	0	2	12	3	1	1	0	0	73.7	5.3

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W	
346	3.40	1.22	19	21	1	4	5	2	6	1	0	0	52.6	5.3
347	4.63	1.08	19	21	0	1	3	5	4	4	2	0	21.1	31.6
348	3.93	0.59	14	26	0	2	2	7	2	1	0	0	28.6	7.1
349	4.00	0.38	6	34	0	1	0	4	0	1	0	0	16.7	16.7
350	5.56	0.86	31	9	0	0	2	4	9	9	6	1	6.5	51.6
351	5.83	0.73	30	10	0	0	1	3	7	12	4	1	3.3	63.3
352	5.72	0.95	32	8	0	0	0	6	8	9	7	2	0.0	56.3
353	4.75	0.72	24	16	0	0	1	9	8	5	1	0	4.2	25.0
354	5.77	0.78	32	8	0	0	0	4	9	11	8	0	0.0	59.4
355	5.50	0.64	14	26	0	0	0	2	5	6	0	1	0.0	50.0
356	5.20	0.75	28	12	0	0	1	6	10	8	2	1	3.6	39.3
357	4.83	0.54	12	28	0	0	0	4	6	1	1	0	0.0	16.7
358	4.75	0.83	5	35	0	0	1	1	2	1	0	0	20.0	20.0
359	5.33	1.05	17	23	0	0	1	5	3	5	2	1	5.9	47.1
360	6.64	0.66	16	24	0	0	1	1	0	5	7	2	6.3	87.5
361	4.75	1.31	5	35	0	1	1	0	2	1	0	0	40.0	20.0
362	5.80	0.84	22	18	0	0	3	2	3	10	3	1	13.6	63.6
363	6.70	1.22	10	30	0	0	0	2	2	0	5	1	0.0	60.0
364	5.33	1.06	17	23	1	0	2	3	3	7	1	0	17.6	47.1
365	0.0	0.0	0	40	0	0	0	0	0	0	0	0	0.0	0.0
366	4.38	0.83	28	12	1	2	4	8	9	3	1	0	25.0	14.3
367	4.00	0.60	11	29	0	1	2	5	3	0	0	0	27.3	0.0
368	3.44	0.59	15	25	0	0	8	5	2	0	0	0	53.3	0.0
369	3.50	1.00	6	34	0	1	2	1	2	0	0	0	50.0	0.0
370	3.14	0.47	18	22	0	2	11	3	2	0	0	0	72.2	0.0
371	3.75	1.01	15	25	0	0	7	2	4	1	1	0	46.7	13.3
372	5.36	0.61	16	24	0	0	0	2	7	6	1	0	0.0	43.8
373	6.00	0.90	20	20	0	0	0	2	5	6	5	2	0.0	65.0
374	5.91	0.66	27	13	0	0	0	1	8	11	6	1	0.0	66.7
375	5.72	0.81	28	12	0	0	1	3	8	9	7	0	3.6	57.1
376	5.90	0.76	28	12	0	0	0	2	8	10	7	1	0.0	64.3
377	5.00	0.97	21	19	0	0	5	1	9	4	2	0	23.8	28.6
378	4.38	1.20	17	23	0	0	5	4	3	3	2	0	29.4	29.4
379	5.17	0.54	6	34	0	0	0	1	3	2	0	0	0.0	33.3
380	6.05	0.70	28	12	0	0	0	1	7	11	8	1	0.0	71.4

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W	
381	5.20	0.74	11	29	0	0	0	2	5	2	2	0	0.0	36.4
382	3.75	0.54	8	32	0	0	3	4	0	1	0	0	37.5	12.5
383	4.38	0.95	15	25	0	1	3	4	4	2	1	0	26.7	20.0
384	4.00	0.78	13	27	0	0	4	5	2	2	0	0	30.8	15.4
385	4.80	0.69	13	27	0	0	1	4	5	2	1	0	7.7	23.1
386	3.75	1.17	13	27	0	0	6	2	2	3	0	0	46.2	23.1
387	4.30	0.80	16	24	0	0	4	5	5	1	1	0	25.0	12.5
388	6.40	1.44	23	17	1	2	1	2	1	5	7	4	17.4	69.6
389	3.95	0.81	32	8	1	1	9	11	7	3	0	0	34.4	9.4
390	3.86	0.71	28	12	2	1	7	11	4	2	1	0	35.7	10.7
391	4.67	0.77	11	29	0	0	0	5	3	3	0	0	0.0	27.3
392	4.50	1.00	8	32	0	0	2	2	2	2	0	0	25.0	25.0
393	3.33	0.67	5	35	0	0	3	1	1	0	0	0	60.0	0.0
394	5.63	0.91	32	8	0	0	1	4	10	8	8	1	3.1	53.1
395	5.88	0.66	28	12	0	0	1	3	5	13	6	0	3.6	67.9
396	6.06	0.50	33	7	0	0	0	2	5	17	9	0	0.0	78.8
397	6.05	0.83	33	7	0	0	1	2	8	10	12	0	3.0	66.7
398	4.75	0.88	7	33	0	0	1	2	2	2	0	0	14.3	28.6
399	5.50	0.63	6	34	0	0	0	1	2	3	0	0	0.0	50.0
400	4.21	1.39	28	12	0	2	7	7	2	6	4	0	32.1	35.7
401	5.96	0.79	35	5	0	0	1	2	9	12	10	1	2.9	65.7
402	3.93	1.50	26	14	0	[illegible]	7	7	0	5	4	0	38.5	34.6
403	5.00	1.42	30	10	0	0	3	11	2	4	10	0	10.0	46.7
404	3.50	0.88	14	26	0	1	6	3	3	1	0	0	50.0	7.1
405	3.50	1.10	14	26	0	2	5	1	5	1	0	0	50.0	7.1
406	3.83	0.94	14	26	0	1	5	3	4	1	0	0	42.9	7.1
407	4.14	1.06	19	21	0	0	5	7	2	4	1	0	26.3	26.3
408	5.00	1.00	4	36	0	0	1	0	2	1	0	0	25.0	25.0
409	4.00	1.16	9	31	0	2	2	1	4	0	0	0	44.4	0.0
410	4.07	1.18	18	22	0	0	5	7	1	2	3	0	27.8	27.8
411	4.25	0.90	19	21	0	0	2	10	2	3	2	0	10.5	26.3
412	4.33	0.79	16	24	0	1	2	6	4	3	0	0	18.8	18.8
413	3.75	0.75	12	28	0	1	4	4	2	1	0	0	41.7	8.3
414	3.50	0.63	12	28	0	0	6	4	1	1	0	0	50.0	8.3
415	3.60	0.71	17	23	0	0	8	5	3	1	0	0	47.1	5.9

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS								% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M		
416	4.00	0.92	8	32	0	0	3	2	2	0	1	0	37.5	12.5
417	3.10	0.93	16	24	0	5	5	3	2	1	0	0	62.5	6.3
418	3.07	0.71	14	26	0	3	7	1	3	0	0	0	71.4	0.0
419	3.75	0.54	8	32	0	0	3	4	0	1	0	0	37.5	12.5
420	5.08	0.85	19	21	0	0	1	5	6	5	2	0	5.3	36.8
421	5.00	1.16	19	21	0	0	4	3	5	4	3	0	21.1	36.8
422	3.30	0.98	10	30	0	1	5	1	2	1	0	0	60.0	10.0
423	3.33	0.68	9	31	0	2	3	4	0	0	0	0	55.6	0.0
424	3.25	0.63	5	35	0	1	2	2	0	0	0	0	60.0	0.0
425	3.00	0.35	7	32	0	1	5	1	0	0	0	0	85.7	0.0
426	5.00	1.25	10	30	0	1	1	2	2	2	2	0	20.0	40.0
427	4.30	0.60	10	30	0	0	1	5	3	0	1	0	10.0	10.0
428	3.70	0.78	18	22	0	0	8	5	4	1	0	0	44.4	5.6
429	3.25	0.44	6	34	0	0	4	2	0	0	0	0	66.7	0.0
430	3.75	0.69	13	27	0	2	3	6	2	0	0	0	38.5	0.0
431	4.10	0.49	18	22	0	0	3	10	4	0	1	0	16.7	5.6
432	3.60	0.66	13	27	0	0	6	5	1	0	1	0	46.2	7.7
433	4.10	0.67	12	28	0	0	3	5	3	0	1	0	25.0	8.3
434	3.40	0.57	9	31	0	0	5	3	0	1	0	0	55.6	11.1
435	5.50	1.15	22	18	0	0	0	7	4	5	6	0	0.0	50.0
436	4.00	0.25	1	39	0	0	0	1	0	0	0	0	0.0	0.0
437	4.17	0.81	10	30	0	1	2	3	4	0	0	0	30.0	0.0
438	3.88	0.73	22	17	0	1	7	8	5	1	0	0	36.4	4.5
439	4.17	1.13	20	20	1	1	4	6	3	3	2	0	30.0	25.0
440	4.93	0.93	20	20	0	1	3	3	7	5	1	0	20.0	30.0
441	2.50	0.50	2	38	0	1	1	0	0	0	0	0	100.0	0.0
442	3.25	0.88	7	33	0	2	2	2	1	0	0	0	57.1	0.0
443	4.58	0.96	19	21	0	0	5	4	6	2	2	0	26.3	21.1
444	3.92	0.29	7	33	0	0	1	6	0	0	0	0	14.3	0.0
445	4.20	0.75	24	16	0	0	5	10	5	3	1	0	20.8	16.7
446	4.17	0.96	10	30	0	0	3	3	2	2	0	0	30.0	20.0
447	4.50	1.00	20	20	0	1	4	5	5	3	2	0	25.0	25.0
448	3.50	0.64	18	22	1	1	7	7	1	1	0	0	50.0	5.6
449	4.00	0.81	9	31	0	0	3	3	2	1	0	0	33.3	11.1
450	3.14	0.76	15	25	0	3	7	2	1	1	0	1	66.7	13.3

TASK	MDN	Q	N	DISTRIBUTION OF SUPERVISOR EXPECTATIONS									% NOT EXP IN 1ST YR	% EXP 3 MOS OR LESS
				NONE	0	Y+	3Y	Y	6M	3M	M	W		
451	3.25	0.93	19	21	0	2	10	2	2	1	1	1	63.2	15.8
452	3.50	0.98	20	20	1	1	8	3	6	0	1	0	50.0	5.0
453	3.50	0.50	2	38	0	0	1		0	0	0	0	50.0	0.0
454	3.50	0.75	4	36	0	0	2		0	1	0	0	50.0	25.0
455	2.88	0.31	5	35	0	1	4		0	0	0	0	100.0	0.0
456	2.83	0.54	6	34	0	2	3	0	0	1	0	0	83.3	16.7
457	3.40	0.71	9	31	0	0	5	2	0	2	0	0	55.6	22.2
458	3.50	1.00	6	34	0	0	3	1	1	1	0	0	50.0	16.7
459	4.25	0.81	5	35	0	0	1	2	1	1	0	0	20.0	20.0
460	4.21	0.78	18	22	0	0	4	7	4	2	1	0	22.2	16.7
461	4.38	0.99	22	18	0	1	3	8	4	3	3	0	18.2	27.3
462	4.14	0.79	24	16	0	1	4	11	3	2	3	0	20.8	20.8
463	4.00	0.73	23	17	0	1	6	9	5	2	0	0	30.4	8.7
464	4.00	0.67	14	26	0	1	3	6	3	1	0	0	28.6	7.1
465	3.44	0.67	17	23	0	1	8	5	2	1	0	0	52.9	5.9
466	4.33	0.77	25	15	0	1	4	9	7	3	1	0	20.0	16.0
467	4.50	1.09	22	18	0	0	3	8	4	3	4	0	13.6	31.8
468	4.00	1.01	11	29	0	0	5	1	4	1	0	0	45.5	9.1
469	4.50	0.83	8	32	0	0	1	3	2	2	0	0	12.5	25.0
470	5.00	1.13	7	33	0	0	1	2	1	2	1	0	14.3	42.9
471	3.38	1.03	9	31	0	1	4	1	2	1	0	0	55.6	11.1
472	3.25	0.72	15	25	0	3	6	4	1	1	0	0	60.0	6.7
473	3.13	0.47	7	33	0	1	4	2	0	0	0	0	71.4	0.0
474	3.78	0.56	15	25	0	2	3	9	0	1	0	0	33.3	6.7
TOTALS:				12268	105	285	1151	1524	1294	1205	871	214		

Table C-6

Learning Location (Q12 and Q13)[a]

Question 12: Learning Location (Workers)

From your total experience as a Business Data Programmer (with present and previous employers), judge where each job activity should be learned. That is, where should a Business Data Programmer make the main effort to learn what needs to be known about each activity?

Categories of the Response Scale:

a. Prior to enrollment in a formal job training program (P).
b. In a formal training program or school before regular employment in the job (T).
c. On site (such as by job experience after employment or on-the-job training) (S).
d. Through prior employment experience in a related or lower entry occupation (E).
e. Other (comments to be written in) (O).
f. There is nothing that new Business Data Programmers would need to learn about the activity (such as when it is not part of the job or there is nothing of any real substance to learn) (N).

Question 13: Learning Location (Supervisors)

From your total experience in employing and supervising Business Data Programmers, judge where each job activity should be learned.

Categories of the Response Scale: Identical to those of Question 12.

Each of the 26 columns of Table C-6 is identified below.

Column 87: Number of workers suggesting that the task essentially should be learned prior to formal training (P).

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[a]Question 12 was answered by workers in Group 2 for all tasks in the inventory. Question 13 was answered by supervisors only for those tasks checked on Q2.

Table C-6-continued

Column 88: Number of workers suggesting that the task should be learned mainly in formal training before employment (T).

Column 89: Number of workers suggesting that the task should be learned mainly on site, after employment (S).

Column 90: Number of workers suggesting that the task should be learned mainly through experience in other occupations (E).

Column 91: Number of workers suggestion learning locations other than those listed (O).

Note: Asterisks (*) appear next to frequency numbers in Columns 87-91 when that category receives 20% or more of the combined responses of P, T, S, E, and O (but not counting "nothing to learn" responses).

Column 92: Number of workers suggesting that no particular learning would be needed for the task.

Column 93: Number of workers indicating that the task is not considered as part of their job (Question 6). This entry is repeated here from Table C-3 (Column 36) to permit comparison with Column 92 (N). Obviously, many workers suggested a learning location on Question 12, even though these same workers had indicated on Question 6 that the task was not part of their job. No attempt was made in this study to restrict the counting and summarizing of Question 12 responses to only those tasks on which each worker had indicated that it was at least of some minor significance to the job (Question 6).

Columns 94 through 97: Percent of workers suggesting that the main learning location be prior to training (P), training before employment (T), or the job situation itself (S). Since both categories S and E represent job experience of one sort or another, Column 97 reports the combined percent of workers using either of these responses for a task.

Table C-6-continued

Column 98:	Most common response (mode) given by workers, not considering the "nothing to learn" (N) category. Occasionally more than one category tied for most common use. The table displays as many as two modes for a task. If there were more than two modes, as may readily occur when very few workers suggest a learning location, the table displays the symbol "MM", an abbreviation for "multiple modes."
Column 99:	Percent of workers giving the modal response; with the percentage based on the combined number of responses using categories P, T, S, E, and O (but not including N responses).
Columns 100 through 105:	Same as Columns 87 through 92 but for supervisors' ratings. Column 105 (N) represents a true rating of no training need for a relevant task, since supervisors only answered Question 1? for tasks they had checked on Question 2. Though the N category may occasionally represent the modal response, no asterisk was printed to indicate this.
Column 106:	Similar to Column 93, but using negative responses to Question 2 by the 40 supervisors in Group 2.
Columns 107 through 112:	Same as Columns 94 through 99, but for supervisors' ratings.

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 61 LEARNING LOCATION
(Q12 & 13)

	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
TASK	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
1	0	5	30*	7	0	16	32	0.0	11.9	71.4	88.1	S	71.4	0	1	15*	2	0	0	22	0.0	5.6	83.3	94.4	S	83.3
2	0	3	37*	12*	0	6	8	0.0	5.8	71.2	94.2	S	71.2	0	2	23*	1	0	0	13	0.0	7.7	88.5	92.3	S	88.5
3	0	8	30*	14*	0	7	7	0.0	15.4	57.7	84.6	S	57.7	0	8*	17*	3	0	0	11	0.0	28.6	60.7	71.4	S	60.7
4	0	12*	29*	13*	0	5	9	0.0	22.2	53.7	77.8	S	53.7	0	6	17*	8*	0	0	8	0.0	19.4	54.8	80.6	S	54.8
5	1	7	25*	9*	0	16	18	2.4	16.7	59.5	81.0	S	59.5	0	3	14*	4	0	1	18	0.0	14.3	66.7	85.7	S	66.7
6	1	13*	22*	10*	0	12	18	2.2	28.3	47.8	69.6	S	47.8	0	3*	9*	2	0	1	25	0.0	21.4	64.3	78.6	S	64.3
7	0	7	26*	14*	0	12	14	0.0	14.9	55.3	85.1	S	55.3	0	3	10*	8*	0	2	16	0.0	14.3	47.6	85.7	S	47.6
8	1	5	30*	11*	1	11	24	2.1	10.4	62.5	85.4	S	62.5	0	4*	12*	3	0	0	21	0.0	21.1	63.2	78.9	S	63.2
9	0	5	24*	14*	1	13	21	0.0	11.4	54.5	86.4	S	54.5	0	1	9*	6*	0	0	24	0.0	6.3	56.3	93.8	S	56.3
10	0	17*	19*	7	0	14	34	0.0	39.5	44.2	60.5	S	44.2	0	4*	6*	2	0	0	28	0.0	33.3	50.0	66.7	S	50.0
11	1	7	27*	9*	0	14	33	2.3	15.9	61.4	81.8	S	61.4	0	3	10*	4*	0	0	23	0.0	17.6	58.8	82.4	S	58.8
12	0	4	19*	14*	0	21	49	0.0	10.8	51.4	89.2	S	51.4	0	2	6*	6*	0	0	25	0.0	14.3	42.9	85.7	SE	42.9
13	4	5	16*	5	0	27	44	13.3	16.7	53.3	70.0	S	53.3	2*	0	3*	3*	0	0	31	25.0	0.0	37.5	75.0	SE	37.5
14	0	17*	29*	4	0	7	19	0.0	34.0	58.0	66.0	S	58.0	1	10*	4*	2	0	1	22	5.9	58.8	23.5	35.3	T	58.8
15	0	4	27*	15*	0	13	26	0.0	8.7	58.7	91.3	S	58.7	1	1	10*	8*	0	1	18	5.0	5.0	50.0	90.0	S	50.0
16	1	5	19*	4	0	28	55	3.4	17.2	65.5	79.3	S	65.5	0	1*	2*	2*	0	0	35	0.0	20.0	40.0	80.0	SE	40.0
17	1	6	23*	2	0	26	45	3.1	18.8	71.9	78.1	S	71.9	0	1	10*	1	0	0	28	0.0	8.3	83.3	91.7	S	83.3
18	1	10*	19*	4	0	24	43	2.9	29.4	55.9	67.6	S	55.9	0	0	11*	3	0	0	29	0.0	0.0	99.9	99.9	S	99.9
19	1	5	23*	8*	0	21	26	3.7	13.5	62.2	83.8	S	62.2	0	1	11*	5*	0	2	20	0.0	5.9	64.7	94.1	S	64.7
20	3	5	20*	3	0	27	30	9.7	16.1	64.5	74.2	S	64.5	0	1	9*	3*	0	3	23	0.0	7.7	69.2	92.3	S	69.2
21	0	6*	19*	5	0	28	53	0.0	20.0	63.3	80.0	S	63.3	0	1	5*	5*	0	0	29	0.0	9.1	45.5	90.9	SE	45.5
22	0	18*	14*	1	0	25	54	0.0	54.5	42.4	45.5	T	54.5	0	2*	1	4*	0	0	33	0.0	28.6	14.3	71.4	E	57.1
23	0	7*	23*	5	0	23	42	0.0	20.0	65.7	80.0	S	65.7	0	1	10*	4*	0	0	24	0.0	6.7	66.7	93.3	S	66.7
24	0	10*	20*	3	0	25	52	0.0	30.3	60.6	69.7	S	60.6	0	2*	5*	2*	0	0	30	0.0	22.2	55.6	77.8	S	55.6
25	0	13*	12*	6	0	27	53	0.0	41.9	38.7	58.1	T	41.9	0	2*	4*	3*	0	0	31	0.0	22.2	44.4	77.8	S	44.4
26	0	8	27*	9*	0	13	22	0.0	18.2	61.4	81.8	S	61.4	1	2	7*	5*	0	2	22	6.7	13.3	46.7	80.0	S	46.7
27	0	10*	26*	7	0	15	20	0.0	23.3	60.5	76.7	S	60.5	0	2	14*	6*	0	0	17	0.0	9.1	63.6	90.9	S	63.6
28	0	4	32*	7	0	15	27	0.0	9.3	74.4	90.7	S	74.4	0	0	11*	1	0	0	28	0.0	0.0	91.7	100.0	S	91.7
29	0	10*	18*	14*	0	16	38	0.0	23.8	42.9	76.2	S	42.9	0	3*	7*	2	0	0	28	0.0	25.0	58.3	75.0	S	58.3
30	0	8*	15*	10*	0	25	55	0.0	24.2	45.5	75.8	S	45.5	0	1	7*	4*	0	0	28	0.0	8.3	58.3	91.7	S	58.3

	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
TASK	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
31	1	4	25*	8*	0	20	33	2.6	10.5	65.8	86.8	S	65.8	0	1	8*	2	0	1	26	0.0	9.1	72.7	90.9	S	72.7
32	0	8*	20*	7*	0	24	51	0.0	22.9	57.1	77.1	S	57.1	1	3*	3*	1	0	0	31	12.5	37.5	37.5	50.0	TS	37.5
33	0	7*	17*	5	0	29	56	0.0	24.1	58.6	75.9	S	58.6	1	4*	2*	1	0	0	32	12.5	50.0	25.0	37.5	T	50.0
34	0	6	25*	10*	0	17	39	0.0	14.6	61.0	85.4	S	61.0	0	0	7*	2*	0	2	29	0.0	0.0	77.8	100.0	S	77.8
35	0	10*	25*	3	0	20	47	0.0	26.3	65.8	73.7	S	65.8	0	1	5*	1	0	0	33	0.0	14.3	71.4	85.7	S	71.4
36	1	14*	25*	8	0	10	22	2.1	29.2	52.1	68.7	S	52.1	0	7*	9*	3	0	1	19	0.0	36.8	47.4	63.2	S	47.4
37	1	2	28*	9*	0	18	20	2.5	5.0	70.0	92.5	S	70.0	0	2	16*	5*	0	3	14	0.0	8.7	69.6	91.3	S	69.6
38	0	4	23*	7*	0	24	46	0.0	11.8	67.6	88.2	S	67.6	0	1	8*	4*	0	0	26	0.0	7.7	61.5	92.3	S	61.5
39	0	5	30*	10*	0	13	24	0.0	11.1	66.7	88.9	S	66.7	0	0	11*	5*	0	0	24	0.0	0.0	68.8	99.9	S	68.8
40	0	3	26*	7	0	22	49	0.0	8.3	72.2	91.7	S	72.2	0	1	8*	1	0	1	29	0.0	10.0	80.0	90.0	S	80.0
41	0	23*	12*	5	0	17	48	0.0	57.5	30.0	42.5	T	57.5	0	6*	3*	1	0	1	29	0.0	60.0	30.0	40.0	T	60.0
42	0	17*	22*	5	0	13	25	0.0	38.6	50.0	61.4	S	50.0	0	10*	9*	3	0	1	16	0.0	45.5	40.9	54.5	T	45.5
43	1	9*	28*	2	0	18	43	2.5	22.5	70.0	75.0	S	70.0	0	4*	6*	2	0	1	27	0.0	33.3	50.0	66.7	S	50.0
44	0	7*	21*	5	0	25	56	0.0	21.2	63.6	78.8	S	63.6	0	0	3*	2*	0	1	34	0.0	0.0	60.0	99.9	S	60.0
45	0	6	26*	7	0	19	37	0.0	15.4	66.7	84.6	S	66.7	0	1	11*	3*	0	0	25	0.0	6.7	73.3	93.3	S	73.3
46	0	2	17*	8*	0	31	56	0.0	7.4	63.0	92.6	S	63.0	0	2*	4*	2*	0	2	29	0.0	25.0	50.0	75.0	S	50.0
47	2	0	26*	6	0	24	21	5.9	0.0	76.5	94.1	S	76.5	0	2	11*	2	0	6	17	0.0	13.3	73.3	86.7	S	73.3
48	1	3	16*	7*	0	31	57	3.7	11.1	59.3	85.2	S	59.3	0	1*	2*	0	0	3	34	0.0	33.3	66.7	66.7	S	66.7
49	3	5	15*	6*	0	29	43	10.3	17.2	51.7	72.4	S	51.7	0	6*	3*	1	0	2	27	0.0	60.0	30.0	40.0	T	60.0
50	2	3	20*	3	0	30	57	7.1	10.7	71.4	82.1	S	71.4	0	0	1*	0	0	1	38	0.0	0.0	99.9	99.9	S	99.9
51	2	5	20*	4	0	27	51	6.5	16.1	64.5	77.4	S	64.5	0	1*	2*	2*	0	1	34	0.0	20.0	40.0	80.0	SE	40.0
52	0	4	24*	5	0	25	52	0.0	12.1	72.7	87.9	S	72.7	0	0	7*	1	0	0	31	0.0	0.0	87.5	99.9	S	87.5
53	0	9*	20*	5	0	24	49	0.0	26.5	58.8	73.5	S	58.8	0	5*	4*	1	0	1	28	0.0	50.0	40.0	50.0	T	50.0
54	0	13*	21*	7	0	17	43	0.0	31.7	51.2	68.3	S	51.2	0	5*	6*	3*	0	0	26	0.0	35.7	42.9	64.3	S	42.9
55	0	6	20*	6	0	25	49	0.0	18.8	62.5	81.3	S	62.5	0	0	9*	4*	0	1	27	0.0	0.0	66.7	100.0	S	66.7
56	0	1	19*	8*	0	30	57	0.0	3.6	67.9	96.4	S	67.9	0	1*	1*	2*	0	2	33	0.0	25.0	25.0	75.0	E	50.0
57	1	13*	8*	9*	0	27	56	3.2	41.9	25.8	54.8	T	41.9	0	1	2*	5*	0	1	31	0.0	12.5	25.0	87.5	E	62.5
58	0	15*	14*	4	0	24	50	0.0	45.5	42.4	54.5	T	45.5	0	4*	5*	1	0	1	29	0.0	40.0	50.0	60.0	S	50.0
59	0	10*	32*	4	0	13	25	0.0	21.7	69.6	78.3	S	69.6	0	6*	10*	3	0	1	18	0.0	31.6	52.6	68.4	S	52.6
60	0	9*	20*	11*	0	18	42	0.0	22.5	50.0	77.5	S	50.0	0	3*	6*	5*	0	0	25	0.0	21.4	42.9	78.6	S	42.9
61	0	8	29*	12*	0	9	23	0.0	16.3	59.2	83.7	S	59.2	0	1	11*	5*	0	0	22	0.0	5.9	64.7	94.1	S	64.7
62	0	5	19*	6*	0	28	59	0.0	16.7	63.3	83.3	S	63.3	0	0	5*	0	0	0	35	0.0	0.0	99.9	99.9	S	99.9
63	0	3	17*	5*	0	32	58	0.0	12.0	68.0	88.0	S	68.0	0	0	2*	2*	0	1	35	0.0	0.0	50.0	99.9	SE	50.0
64	0	3	19*	4	0	30	54	0.0	11.5	73.1	88.5	S	73.1	0	1*	2*	1*	0	3	33	0.0	25.0	50.0	75.0	S	50.0
65	0	23*	18*	11*	0	6	12	0.0	44.2	34.6	55.8	T	44.2	0	13*	8*	3	0	1	15	0.0	54.2	33.3	45.8	T	54.2

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	NO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	NO	%
66	0	12*	17*	3	0	25	53	0.0	37.5	53.1	62.5	S	53.1	0	2*	3*	4*	0	0	31	0.0	22.2	33.3	77.8	E	44.4
67	0	4	14*	7*	0	31	58	0.0	16.0	56.0	84.0	S	56.0	0	1	4*	5*	0	1	27	0.0	10.0	40.0	90.0	E	50.0
68	0	8*	24*	6	0	20	26	0.0	21.1	63.2	78.9	S	63.2	0	3*	5*	4*	0	1	25	0.0	25.0	41.7	75.0	S	41.7
69	0	7	22*	8*	0	21	44	0.0	18.9	59.5	81.1	S	59.5	0	2*	3*	2*	0	0	33	0.0	28.6	42.9	71.4	S	42.9
70	0	3	21*	4	0	29	58	0.0	10.7	75.0	89.3	S	75.0	0	2*	2*	1*	0	1	34	0.0	40.0	40.0	60.0	TS	40.0
71	0	9*	13*	3	0	32	55	0.0	36.0	52.0	64.0	S	52.0	0	0	4*	1*	0	1	33	0.0	0.0	80.0	99.9	S	80.0
72	0	7*	14*	5	0	31	56	0.0	26.9	53.8	73.1	S	53.8	0	1	5*	0	0	1	33	0.0	16.7	83.3	83.3	S	83.3
73	0	3	16*	7*	0	30	54	0.0	11.5	61.5	88.5	S	61.5	0	0	1*	1*	0	1	36	0.0	0.0	50.0	99.9	SE	50.0
74	0	4	15*	8*	0	29	57	0.0	14.8	55.6	85.2	S	55.6	0	0	4*	0	0	1	33	0.0	0.0	99.9	99.9	S	99.9
75	0	4	13*	9*	0	30	60	0.0	15.4	50.0	84.6	S	50.0	0	0	2*	2*	0	1	35	0.0	0.0	50.0	99.9	SE	50.0
76	0	11*	13*	5	0	28	56	0.0	37.9	44.8	62.1	S	44.8	0	0	1*	0	0	1	38	0.0	0.0	99.9	99.9	S	99.9
77	0	13*	27*	3	0	15	23	0.0	30.2	62.8	69.8	S	62.8	0	2	8*	4*	0	0	25	0.0	14.3	57.1	85.7	S	57.1
78	0	11*	28*	10*	0	9	19	0.0	22.4	57.1	77.6	S	57.1	1	6*	13*	5*	0	0	15	4.0	24.0	52.0	72.0	S	52.0
79	0	15*	24*	8	0	12	26	0.0	31.9	51.1	68.1	S	51.1	1	5*	15*	2	0	1	14	4.3	21.7	65.2	73.9	S	65.2
80	0	14*	30*	5	0	8	25	0.0	28.6	61.2	71.4	S	61.2	0	4*	8*	4*	0	0	24	0.0	25.0	50.0	75.0	S	50.0
81	0	18*	25*	9	0	6	13	0.0	34.6	48.1	65.4	S	48.1	0	13*	8*	2	0	2	15	0.0	56.5	34.8	43.5	T	56.5
82	0	19*	25*	6	0	8	13	0.0	38.0	50.0	62.0	S	50.0	0	13*	12*	2	0	0	13	0.0	48.1	44.4	51.9	T	48.1
83	0	12*	32*	8	0	6	16	0.0	23.1	61.5	76.9	S	61.5	0	5	16*	5	0	1	13	0.0	19.2	61.5	80.8	S	61.5
84	0	10	39*	4	0	5	14	0.0	18.9	73.6	81.1	S	73.6	0	3	17*	5*	0	2	12	0.0	12.0	68.0	88.0	S	68.0
85	0	11*	34*	7	0	6	15	0.0	21.2	65.4	78.8	S	65.4	0	6	22*	4	0	1	6	0.0	18.8	68.8	81.3	S	68.8
86	0	17*	27*	8	0	5	16	0.0	32.7	51.9	67.3	S	51.9	0	7*	19*	4	0	3	6	0.0	23.3	63.3	76.7	S	63.3
87	0	17*	29*	9	0	3	14	0.0	30.9	52.7	69.1	S	52.7	0	8*	17*	1	0	3	10	0.0	30.8	65.4	69.2	S	65.4
88	0	26*	9*	2	0	20	35	0.0	70.3	24.3	29.7	T	70.3	0	9*	1	1	0	0	28	0.0	81.8	9.1	18.2	T	81.8
89	0	8	32*	6	0	12	33	0.0	17.4	69.6	82.6	S	69.6	0	3	14*	3	0	0	20	0.0	15.0	70.0	85.0	S	70.0
90	0	17*	24*	8	0	9	26	0.0	34.7	49.0	65.3	S	49.0	1	10*	7*	2	0	0	20	5.0	50.0	35.0	45.0	T	50.0
91	0	18*	25*	5	0	10	25	0.0	37.5	52.1	62.5	S	52.1	0	8*	7*	5*	0	1	18	0.0	40.0	35.0	60.0	T	40.0
92	0	10*	26*	10*	0	12	32	0.0	21.7	56.5	78.3	S	56.5	0	4*	7*	3*	0	2	24	0.0	28.6	50.0	71.4	S	50.0
93	0	7	33*	6	0	13	24	0.0	15.2	71.7	84.8	S	71.7	0	0	13*	4*	0	1	22	0.0	0.0	76.5	100.0	S	76.5
94	0	3	32*	4	0	20	29	0.0	7.7	82.1	92.3	S	82.1	0	3*	8*	2	0	1	26	0.0	23.1	61.5	76.9	S	61.5
95	0	5	18*	6*	0	28	52	0.0	17.2	62.1	82.8	S	62.1	1	2*	5*	2*	0	4	26	10.0	20.0	50.0	70.0	S	50.0
96	0	11*	22*	5	0	19	46	0.0	28.9	57.9	71.1	S	57.9	0	2	10*	3*	0	0	25	0.0	13.3	66.7	86.7	S	66.7
97	0	9*	25*	6	0	18	44	0.0	22.5	62.5	77.5	S	62.5	0	5*	5*	3*	0	0	26	0.0	38.5	38.5	61.5	TS	38.5
98	0	7	26*	7	0	18	50	0.0	17.5	65.0	82.5	S	65.0	0	1*	2*	1*	0	0	36	0.0	25.0	50.0	75.0	S	50.0
99	0	4	23*	14*	0	17	48	0.0	9.8	56.1	90.2	S	56.1	0	3	10*	4*	0	0	22	0.0	17.6	58.8	82.4	S	58.8
100	0	5	39*	4	0	10	25	0.0	10.4	81.3	89.6	S	81.3	0	0	10*	4*	0	0	26	0.0	0.0	71.4	100.0	S	71.4

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
101	0	10	33*	13*	0	3	13	0.0	17.9	58.9	82.1	S	58.9	0	6*	17*	5	0	1	10	0.0	21.4	60.7	78.6	S	60.7
102	0	17*	27*	5	0	9	10	0.0	34.7	55.1	65.3	S	55.1	0	9*	8*	4	0	1	17	0.0	42.9	38.1	57.1	T	42.9
103	0	6	29*	6	0	16	44	0.0	14.6	70.7	85.4	S	70.7	0	2*	1	3*	0	0	34	0.0	33.3	16.7	66.7	E	50.0
104	1	7	26*	8	0	16	25	2.4	16.7	61.9	81.0	S	61.9	0	5*	15*	0	0	3	17	0.0	25.0	75.0	75.0	S	75.0
105	3	9*	21*	8	0	17	33	7.3	22.0	51.2	70.7	S	51.2	1	5*	10*	2	0	3	19	5.6	27.8	55.6	66.7	S	55.6
106	0	6	27*	12*	0	14	23	0.0	13.3	60.0	86.7	S	60.0	0	2	19*	2	0	4	12	0.0	8.7	82.6	91.3	S	82.6
107	0	15*	25*	7	0	11	27	0.0	31.9	53.2	68.1	S	53.2	0	3	10*	4*	0	0	23	0.0	17.6	58.8	82.4	S	58.8
108	0	31*	19*	4	0	5	9	0.0	57.4	35.2	42.6	T	57.4	0	19*	6*	3	0	1	11	0.0	67.9	21.4	32.1	T	67.9
109	0	8	23*	11*	0	16	40	0.0	19.0	54.8	81.0	S	54.8	0	0	8*	4*	0	0	28	0.0	0.0	66.7	100.0	S	66.7
110	3	12*	19*	7	0	17	36	7.3	29.3	46.3	63.4	S	46.3	0	4*	3*	1	0	0	32	0.0	50.0	37.5	50.0	T	50.0
111	1	7	22*	9*	0	18	33	2.6	17.9	56.4	79.5	S	56.4	0	2*	8*	0	0	1	29	0.0	20.0	80.0	80.0	S	80.0
112	0	6	31*	6	0	14	26	0.0	14.0	72.1	86.0	S	72.1	0	2	15*	0	0	2	20	0.0	11.8	88.2	88.2	S	88.2
113	5	9*	19*	6	0	18	31	12.8	23.1	48.7	64.1	S	48.7	2	1	8*	7*	0	1	21	11.1	5.6	44.4	83.3	S	44.4
114	2	6	21*	7	0	22	46	5.6	16.7	58.3	77.8	S	58.3	0	3*	4*	3*	0	2	28	0.0	30.0	40.0	70.0	S	40.0
115	0	23*	22*	12*	0	2	9	0.0	40.4	38.6	59.6	T	40.4	0	13*	6*	4	0	2	15	0.0	56.5	26.1	43.5	T	56.5
116	1	29*	17*	7	0	4	21	4.9	53.7	31.5	44.4	T	53.7	1	15*	5	5	0	0	14	3.8	57.7	19.2	38.5	T	57.7
117	0	9*	28*	7	0	14	22	0.0	20.5	63.6	79.5	S	63.6	0	6*	9*	3	0	1	19	0.0	33.3	50.0	66.7	S	50.0
118	0	4	26*	6	0	20	48	0.0	11.1	72.2	88.9	S	72.2	0	2*	3*	1	0	0	34	0.0	33.3	50.0	66.7	S	50.0
119	0	10*	30*	6	0	12	27	0.0	21.7	65.2	78.3	S	65.2	0	7*	8*	3	0	0	22	0.0	38.9	44.4	61.1	S	44.4
120	0	17*	24*	8	0	9	26	0.0	34.7	49.0	65.3	S	49.0	1	9*	9*	3	0	0	16	4.5	40.9	40.9	54.5	TS	40.9
121	0	11*	22*	7	0	18	43	0.0	27.5	55.0	72.5	S	55.0	1	4*	6*	2	0	0	27	7.7	30.8	46.2	61.5	S	46.2
122	1	10*	18*	6	0	23	48	2.9	28.6	51.4	68.6	S	51.4	0	2	10*	3*	0	0	25	0.0	13.3	66.7	86.7	S	66.7
123	1	19*	12*	1	0	24	50	3.0	57.6	36.4	39.4	T	57.6	0	1*	0	1*	0	0	38	0.0	50.0	0.0	50.0	TE	50.0
124	0	6	28*	8	0	17	25	0.0	14.3	66.7	85.7	S	66.7	0	3*	8*	4*	0	1	24	0.0	20.0	53.3	80.0	S	53.3
125	0	11*	29*	9	0	9	21	0.0	22.4	59.2	77.6	S	59.2	0	7*	9*	5*	0	1	18	0.0	33.3	42.9	66.7	S	42.9
126	0	7	31*	7	0	13	20	0.0	15.6	68.9	84.4	S	68.9	0	4	12*	7*	0	1	16	0.0	17.4	52.2	82.6	S	52.2
127	0	9*	26*	4	0	19	36	0.0	23.1	66.7	76.9	S	66.7	0	3*	9*	2	0	1	25	0.0	21.4	64.3	78.6	S	64.3
128	0	19*	24*	5	0	10	15	0.0	39.6	50.0	60.4	S	50.0	0	13*	13*	2	0	0	11	0.0	46.4	46.4	53.6	TS	46.4
129	0	17*	24*	5	0	11	25	0.0	37.0	52.2	63.0	S	52.2	0	6*	8*	1	0	0	24	0.0	40.0	53.3	60.0	S	53.3
130	0	11*	24*	9*	0	14	36	0.0	25.0	54.5	75.0	S	54.5	0	2	9*	3*	0	1	25	0.0	14.3	64.3	85.7	S	64.3
131	0	8	27*	6	0	17	41	0.0	19.5	65.9	80.5	S	65.9	0	1	5*	1	0	1	32	0.0	14.3	71.4	85.7	S	71.4
132	0	13*	23*	9*	0	13	27	0.0	28.9	51.1	71.1	S	51.1	0	6*	7*	2	0	1	24	0.0	40.0	46.7	60.0	S	46.7
133	0	7	24*	6	0	21	50	0.0	18.9	64.9	81.1	S	64.9	0	4*	4*	1	0	1	29	0.0	44.4	44.4	55.6	TS	44.4
134	0	8*	20*	9*	0	20	46	0.0	21.6	54.1	78.4	S	54.1	0	3*	4*	2*	0	1	29	0.0	33.3	44.4	66.7	S	44.4
135	0	8*	24*	7	0	19	44	0.0	20.5	61.5	79.5	S	61.5	0	0	9*	2	0	1	28	0.0	0.0	81.8	100.0	S	81.8

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
136	0	14	17*	4	0	22	52	0.0	40.0	48.6	60.0	S	48.6	0	0	3*	0	0	0	37	0.0	0.0	99.9	99.9	S	99.9
137	0	12*	18*	6	0	20	46	0.0	33.3	50.0	66.7	S	50.0	0	1	6*	0	0	1	32	0.0	14.3	85.7	85.7	S	85.7
138	0	9*	22*	6	0	21	46	0.0	24.3	59.5	75.7	S	59.5	0	1	5*	0	0	1	33	0.0	16.7	83.3	83.3	S	83.3
139	0	4	26*	5	0	23	46	0.0	11.4	74.3	88.6	S	74.3	0	1	6*	1	0	1	31	0.0	12.5	75.0	87.5	S	75.0
140	0	5	25*	7	0	21	43	0.0	13.5	67.6	86.5	S	67.6	0	1	9*	3*	0	1	26	0.0	7.7	69.2	92.3	S	69.
141	0	6	29*	6	0	17	27	0.0	14.6	70.7	85.4	S	70.7	0	3	11*	2	0	2	21	0.0	18.8	68.8	81.3	S	68.8
142	0	7	20*	7*	0	24	52	0.0	20.6	58.8	79.4	S	58.8	0	4*	3*	2*	0	1	29	0.0	44.4	33.3	55.6	T	44.4
143	0	10	34*	7	0	8	9	0.0	19.6	66.7	80.4	S	66.7	1	5*	12*	4	0	1	16	4.5	22.7	54.5	72.7	S	54.5
144	0	6	33*	6	0	13	24	0.0	13.3	73.3	86.7	S	73.3	0	1	8*	0	0	0	31	0.0	11.1	88.9	88.9	S	88.9
145	0	4	35*	7	0	13	18	0.0	8.7	76.1	91.3	S	76.1	0	1	9*	7*	0	1	22	0.0	5.9	52.9	94.1	S	52.9
146	0	19*	22*	6	0	12	22	0.0	40.4	46.8	59.6	S	46.8	0	6*	3*	1	0	1	29	0.0	60.0	30.0	40.0	T	60.0
147	2	24*	14*	8	0	11	13	4.2	50.0	29.2	45.8	T	50.0	2	6*	7*	6*	0	1	18	9.5	28.6	33.3	61.9	S	33.3
148	0	13*	25*	7	0	14	25	0.0	28.9	55.6	71.1	S	55.6	1	1	6*	2*	0	0	30	10.0	10.0	60.0	80.0	S	60.0
149	1	3	25*	9*	0	20	31	2.6	7.9	65.8	89.5	S	65.8	0	0	12*	1	0	0	27	0.0	0.0	92.3	100.0	S	92.3
150	0	5	27*	8*	0	18	28	0.0	12.5	67.5	87.5	S	67.5	0	1	11*	1	0	1	26	0.0	7.7	84.6	92.3	S	84.6
151	0	7*	23*	5	0	23	52	0.0	20.0	65.7	80.0	S	65.7	0	1*	2*	2*	0	1	34	0.0	20.0	40.0	80.0	SE	40.0
152	1	7	26*	6	0	18	30	2.5	17.5	65.0	80.0	S	65.0	0	1	7*	3*	0	0	29	0.0	9.1	63.6	90.9	S	63.6
153	1	8*	22*	7	0	20	46	2.6	21.1	57.9	76.3	S	57.9	0	0	3*	1*	0	0	36	0.0	0.0	75.0	99.9	S	75.0
154	0	4	26*	8*	0	19	38	0.0	10.5	68.4	89.5	S	68.4	0	0	8*	1	0	1	30	0.0	0.0	68.4	100.0	S	88.9
155	1	6	32*	8	0	12	12	2.1	12.8	68.1	85.1	S	68.1	0	0	14*	4*	0	4	17	0.0	0.0	77.8	100.0	S	77.8
156	0	7	32*	6	0	13	18	0.0	15.6	71.1	84.4	S	71.1	0	5*	15*	3	0	0	16	0.0	21.7	65.2	78.3	S	65.2
157	0	9*	22*	7	0	19	39	0.0	23.7	57.9	76.3	S	57.9	0	1*	1*	1*	0	1	36	0.0	33.3	33.3	66.7	MM	0.0
158	0	5	21*	4	0	27	50	0.0	16.7	70.0	83.3	S	70.0	0	0	1*	0	0	1	38	0.0	0.0	99.9	99.9	S	99.9
159	0	10*	27*	8	0	12	30	0.0	22.2	60.0	77.8	S	60.0	1	2	8*	3*	0	1	25	7.1	14.3	57.1	78.6	S	57.1
160	0	5	29*	9*	0	14	34	0.0	11.6	67.4	88.4	S	67.4	2	1	4*	5*	0	2	26	16.7	8.3	33.3	75.0	F	41.7
161	1	5	23*	5	0	23	44	2.9	14.7	67.6	85.4	S	67.6	2*	2*	4*	2*	0	3	27	20.0	20.0	40.0	60.0	S	40.0
162	1	3	27*	8*	0	18	43	2.6	7.7	69.2	89.7	S	69.2	0	0	2*	0	0	0	38	0.0	0.0	99.9	99.9	S	99.9
163	1	3	25*	7	0	21	29	2.8	8.3	69.4	88.9	S	69.4	0	0	6*	0	0	2	30	0.0	0.0	99.9	99.9	S	99.9
164	0	9*	18*	9*	0	21	45	0.0	25.0	50.0	75.0	S	50.0	0	0	5*	3*	0	1	31	0.0	0.0	62.5	99.9	S	62.5
165	0	12*	24*	7	0	14	34	0.0	27.9	55.8	72.1	S	55.8	1	0	4*	1	0	1	33	16.7	0.0	66.7	83.3	S	66.7
166	0	2	26*	8*	0	21	48	0.0	5.6	72.2	94.4	S	72.2	1	0	2*	0	0	1	36	33.3	0.0	66.7	66.7	S	66.7
167	5	8*	19*	8*	0	18	33	12.5	20.0	47.5	67.5	S	47.5	1	1	7*	0	0	1	30	11.1	11.1	77.8	77.8	S	77.8
168	1	11*	24*	7	0	14	27	2.3	25.6	55.8	72.1	S	55.8	0	5*	5*	1	0	0	29	0.0	45.5	45.5	54.5	IS	45.5
169	0	10*	22*	7	0	18	38	0.0	25.6	58.4	74.4	S	56.4	0	2*	6*	1	0	1	30	0.0	22.2	66.7	77.8	S	66.7
170	0	6	25*	11*	0	15	25	0.0	14.3	59.5	85.7	S	59.5	0	1	9*	6*	0	2	22	0.0	6.3	56.3	93.8	S	56.3

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
171	0	2	38*	3	0	14	17	0.0	4.7	88.4	95.3	S	88.4	1	2	11*	4*	0	0	21	5.6	11.1	61.1	83.3	S	61.1
172	4	7	22*	10*	0	15	19	9.3	16.3	51.2	74.4	S	51.2	6*	2	7*	3	0	3	19	33.3	11.1	38.9	55.6	S	38.9
173	0	7	25*	4	0	21	32	0.0	19.4	69.4	80.6	S	69.4	0	1	10*	2	0	1	26	0.0	7.7	76.9	92.3	S	76.9
174	0	21*	25*	4	0	5	16	0.0	42.0	50.0	58.0	S	50.0	0	12*	4*	3	0	0	21	0.0	63.2	21.1	36.8	T	63.2
175	0	24*	20*	2	0	9	25	0.0	52.2	43.5	47.8	T	52.2	1	10*	2	0	0	0	27	7.7	76.9	15.4	15.4	T	76.9
176	0	25*	21*	1	0	11	27	0.0	53.2	44.7	46.8	T	53.2	0	7*	2*	1	0	0	30	0.0	70.0	20.0	30.0	T	70.0
177	0	16*	23*	9	0	10	17	0.0	33.3	47.9	66.7	S	47.9	0	4*	5*	5*	0	0	25	0.0	28.6	35.7	71.4	SE	35.7
178	0	25*	16*	5	0	12	25	0.0	54.3	34.8	45.7	T	54.3	0	14*	5*	2	0	1	17	0.0	66.7	23.8	33.3	T	66.7
179	0	10*	20*	6	0	22	49	0.0	27.8	55.6	72.2	S	55.6	1*	3*	0	1*	0	0	35	20.0	60.0	0.0	20.0	T	60.0
180	0	29*	8	4	0	17	41	0.0	70.7	19.5	29.3	T	70.7	0	7*	1	0	0	0	31	0.0	87.5	12.5	12.5	T	87.5
181	0	24*	17*	2	0	16	35	0.0	55.8	39.5	44.2	T	55.8	1	4*	5*	0	0	0	29	10.0	40.0	50.0	50.0	S	50.0
182	0	15*	20*	5	0	18	39	0.0	37.5	50.0	62.5	S	50.0	1*	3*	0	0	0	1	35	25.0	75.0	0.0	0.0	T	75.0
183	0	15*	21*	3	0	19	44	0.0	38.5	53.8	61.5	S	53.8	1	3*	4*	0	0	2	30	12.5	37.5	50.0	50.0	S	50.0
184	0	22*	20*	3	0	13	24	0.0	48.9	44.4	51.1	T	48.9	0	7*	7*	1	0	1	23	0.0	46.7	46.7	53.3	TS	46.7
185	0	15*	27*	3	0	13	37	0.0	33.3	60.0	66.7	S	60.0	1	1	6*	0	0	1	30	12.5	12.5	75.0	75.0	S	75.0
186	0	12*	17*	4	0	25	53	0.0	36.4	51.5	63.6	S	51.5	0	1*	3*	0	0	3	33	0.0	25.0	75.0	75.0	S	75.0
187	0	13*	17*	4	0	24	50	0.0	38.2	50.0	61.8	S	50.0	0	1*	4*	0	0	2	33	0.0	20.0	80.0	80.0	S	80.0
188	0	26*	9*	3	0	20	47	0.0	68.4	23.7	31.6	T	68.4	1*	4*	0	0	0	0	35	20.0	80.0	0.0	0.0	T	80.0
189	0	28*	12*	3	0	15	32	0.0	65.1	27.9	34.9	T	65.1	0	6*	4*	0	0	0	29	0.0	60.0	40.0	40.0	T	60.0
190	0	28*	11*	3	0	15	42	0.0	66.7	26.2	33.3	T	66.7	0	6*	1	0	0	0	32	0.0	85.7	14.3	14.3	T	85.7
191	0	29*	12*	3	0	14	36	0.0	65.9	27.3	34.1	T	65.9	0	7*	3*	0	0	0	29	0.0	70.0	30.0	30.0	T	70.0
192	0	23*	11*	3	0	21	40	0.0	62.2	29.7	37.8	T	62.2	0	5*	3*	0	0	0	31	0.0	62.5	37.5	37.5	T	62.5
193	0	21*	11*	3	0	23	51	0.0	60.0	31.4	40.0	T	60.0	0	2*	1*	0	0	0	37	0.0	66.7	33.3	33.3	T	66.7
194	0	20*	13*	3	0	22	42	0.0	55.6	36.1	44.4	T	55.6	0	4*	4*	0	0	0	31	0.0	50.0	50.0	50.0	TS	50.0
195	0	31*	10*	3	0	14	27	0.0	70.5	22.7	29.5	T	70.5	0	5*	3*	0	0	0	31	0.0	62.5	37.5	37.5	T	62.5
196	0	33*	15*	4	0	7	9	0.0	63.5	28.8	36.5	T	63.5	1	12*	5*	1	0	0	20	5.3	63.2	26.3	31.6	T	63.2
197	0	26*	11*	3	0	18	42	0.0	65.0	27.5	35.0	T	65.0	0	3*	4*	0	0	0	32	0.0	42.9	57.1	57.1	S	57.1
198	0	24*	11*	3	0	20	52	0.0	63.2	28.9	36.8	T	63.2	0	2*	2*	0	0	0	36	0.0	50.0	50.0	50.0	TS	50.0
199	0	24*	9*	4	0	21	53	0.0	64.9	24.3	35.1	T	64.9	0	3*	1*	0	0	0	35	0.0	75.0	25.0	25.0	T	75.0
200	0	27*	20*	4	0	7	31	0.0	52.9	39.2	47.1	T	52.9	0	8*	3*	0	1	0	28	0.0	66.7	25.0	25.0	T	66.7
201	0	26*	12*	3	0	15	32	0.0	63.4	29.3	36.6	T	63.4	0	5*	3*	0	0	0	31	0.0	62.5	37.5	37.5	T	62.5
202	0	28*	10*	3	0	15	23	0.0	68.3	24.4	31.7	T	68.3	0	4*	5*	0	0	0	30	0.0	44.4	55.6	55.6	S	55.6
203	0	25*	19*	3	0	9	38	0.0	53.2	40.4	46.8	T	53.2	0	5*	3*	1	0	0	31	0.0	55.6	33.3	44.4	T	55.6
204	0	27*	13*	3	0	13	29	0.0	62.8	30.2	37.2	T	62.8	0	8*	3*	2	0	0	26	0.0	61.5	23.1	38.5	T	61.5
205	0	28*	15*	4	0	9	21	0.0	59.6	31.9	40.4	T	59.6	0	16*	3	1	0	0	18	0.0	80.0	15.0	20.0	T	80.0

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES						Q6 NO	PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES						Q2 NO	PERCENTAGES				MODE	
	P	T	S	E	O	N		P	T	S	S+E	MO	%	P	T	S	E	O	N		P	T	S	S+E	MO	%
206	0	33*	12*	4	0	8	16	0.0	67.3	24.5	32.7	T	67.3	0	14*	4*	1	0	0	19	0.0	73.7	21.1	26.3	T	73.7
207	0	21*	12*	3	0	20	53	0.0	58.3	33.3	41.7	T	58.3	0	2*	0	0	0	0	38	0.0	99.9	0.0	0.0	T	99.9
208	0	26*	11*	3	0	16	31	0.0	65.0	27.5	35.0	T	65.0	0	11*	3*	0	0	0	25	0.0	78.6	21.4	21.4	T	78.6
209	0	11*	15*	5	0	25	50	0.0	35.5	48.4	64.5	S	48.4	0	3*	3*	1	0	1	32	0.0	42.9	42.9	57.1	TS	42.9
210	0	13*	16*	3	0	24	57	0.0	40.6	50.0	59.4	S	50.0	0	1*	1*	0	0	0	38	0.0	50.0	50.0	50.0	TS	50.0
211	0	27*	11*	4	0	15	35	0.0	64.3	26.2	35.7	T	64.3	0	7*	3*	1	0	0	29	0.0	63.6	27.3	36.4	T	63.6
212	0	28*	11*	4	0	14	33	0.0	65.1	25.6	34.9	T	65.1	0	8*	2	1	0	0	29	0.0	72.7	18.2	27.3	T	72.7
213	0	28*	11*	4	0	14	36	0.0	65.1	25.6	34.9	T	65.1	0	6*	1	1	0	0	32	0.0	75.0	12.5	25.0	T	75.0
214	0	22*	13*	3	0	18	55	0.0	57.9	34.2	42.1	T	57.9	0	3*	0	1*	0	0	36	0.0	75.0	0.0	25.0	T	75.0
215	0	27*	15*	3	0	12	32	0.0	60.0	33.3	40.0	T	60.0	0	7*	2*	1	0	0	30	0.0	70.0	20.0	30.0	T	70.0
216	0	26*	17*	4	0	10	29	0.0	55.3	36.2	44.7	T	55.3	0	8*	3*	1	0	0	28	0.0	66.7	25.0	33.3	T	66.7
217	0	11*	22*	6	0	17	32	0.0	28.2	56.4	71.8	S	56.4	0	3*	6*	1	0	1	29	0.0	30.0	60.0	70.0	S	60.0
218	0	23*	23*	5	0	6	9	0.0	45.1	45.1	54.9	TS	45.1	0	12*	9*	1	0	0	17	0.0	54.5	40.9	45.5	T	54.5
219	0	22*	24*	5	0	5	14	0.0	43.1	47.1	56.9	S	47.1	0	9*	6*	1	0	0	23	0.0	56.3	37.5	43.8	T	56.3
220	0	8	27*	6	0	15	38	0.0	19.5	65.9	80.5	S	65.9	0	1	3*	2*	0	0	34	0.0	16.7	50.0	83.3	S	50.0
221	0	18*	14*	7	0	17	33	0.0	46.2	35.9	53.8	T	46.2	1	6*	5*	0	0	0	27	8.3	50.0	41.7	41.7	T	50.0
222	0	10*	19*	5	0	22	48	0.0	29.4	55.9	70.6	S	55.9	0	5*	5*	2	0	2	26	0.0	41.7	41.7	58.3	TS	41.7
223	0	9*	20*	2	0	25	58	0.0	29.0	64.5	71.0	S	64.5	0	2*	4*	1	0	2	31	0.0	28.6	57.1	71.4	S	57.1
224	0	24*	19*	7	0	7	17	0.0	48.0	38.0	52.0	T	48.0	0	10*	5*	5*	0	1	19	0.0	50.0	25.0	50.0	T	50.0
225	0	7*	21*	5	0	24	56	0.0	21.2	63.6	78.8	S	63.6	0	1*	2*	2*	0	2	33	0.0	20.0	40.0	80.0	SE	40.0
226	0	22*	15*	10*	0	10	16	0.0	46.8	31.9	53.2	T	46.8	1	8*	4*	3	0	0	24	6.3	50.0	25.0	43.8	T	50.0
227	0	19*	13*	5	0	20	42	0.0	51.4	35.1	48.6	T	51.4	0	3*	5*	0	0	0	32	0.0	37.5	62.5	62.5	S	62.5
228	0	20*	13*	5	0	14	42	0.0	52.6	34.2	47.4	T	52.6	0	4*	3*	0	0	0	32	0.0	57.1	42.9	42.9	T	57.1
229	0	19*	20*	9	0	8	29	0.0	39.6	41.7	60.4	S	41.7	0	5*	3*	4*	0	0	28	0.0	41.7	25.0	58.3	T	41.7
230	0	20*	9*	6	0	22	43	0.0	57.1	25.7	42.9	T	57.1	0	4*	5*	0	0	0	30	0.0	44.4	55.6	55.6	S	55.6
231	0	18*	9*	7*	0	23	53	0.0	52.9	26.5	47.1	T	52.9	0	1*	2*	0	0	0	37	0.0	33.3	66.7	66.7	S	66.7
232	0	16*	11*	7*	0	23	55	0.0	47.1	32.4	52.9	T	47.1	0	1*	0	0	0	0	39	0.0	99.9	0.0	0.0	T	99.9
233	0	21*	9*	4	0	23	57	0.0	61.8	26.5	38.2	T	61.8	0	2*	1*	0	0	0	36	0.0	66.7	33.3	33.3	T	66.7
234	0	17*	10*	6	0	24	54	0.0	51.5	30.3	48.5	T	51.5	0	3*	1*	0	0	0	36	0.0	75.0	25.0	25.0	T	75.0
235	0	21*	9*	6	0	21	52	0.0	58.3	25.0	41.7	T	58.3	0	2*	0	0	0	0	38	0.0	99.9	0.0	0.0	T	99.9
236	0	26*	17*	6	0	7	9	0.0	53.1	34.7	46.9	T	53.1	1	13*	5*	3	0	0	17	4.5	59.1	22.7	36.4	T	59.1
237	0	21*	19*	4	0	13	33	0.0	47.7	43.2	52.3	T	47.7	0	3*	3*	1	0	0	33	0.0	42.9	42.9	57.1	TS	42.9
238	0	22*	9*	3	0	23	51	0.0	64.7	26.5	35.3	T	64.7	0	2*	1*	1*	0	0	35	0.0	50.0	25.0	50.0	T	50.0
239	0	22*	9*	3	0	23	43	0.0	64.7	26.5	35.3	T	64.7	0	5*	0	1	0	0	33	0.0	83.3	0.0	16.7	T	83.3
240	0	20*	16*	3	0	19	36	0.0	51.3	41.0	48.7	T	51.3	0	7*	3*	0	0	0	30	0.0	70.0	30.0	30.0	T	70.0

	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
TASK	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
241	1	29*	8*	2	0	17	42	2.5	72.5	20.0	25.0	T	72.5	0	5*	1	0	0	0	34	0.0	83.3	16.7	16.7	T	83.3
242	1	25*	5	3	0	23	57	2.9	73.5	14.7	23.5	T	73.5	0	2*	1*	0	0	0	37	0.0	66.7	33.3	33.3	T	66.7
243	1	20*	12*	4	0	20	47	2.7	54.1	32.4	43.2	T	54.1	0	7*	2*	0	0	0	31	0.0	77.8	22.2	22.2	T	77.8
244	0	14*	15*	4	0	25	44	0.0	42.4	45.5	57.6	S	45.5	0	4*	1*	0	0	0	35	0.0	80.0	20.0	20.0	T	80.0
245	0	15*	15*	4	0	24	42	0.0	44.1	44.1	55.9	TS	44.1	0	5*	0	1	0	0	34	0.0	83.3	0.0	16.7	T	83.3
246	0	6	25*	6	0	21	37	0.0	16.2	67.6	83.8	S	67.6	0	4*	1	1	0	0	34	0.0	66.7	16.7	33.3	T	66.7
247	0	7*	20*	4	0	27	57	0.0	22.6	64.5	77.4	S	64.5	0	1*	0	0	0	1	38	0.0	99.9	0.0	0.0	T	99.9
248	0	19*	15*	3	0	21	40	0.0	51.4	40.5	48.6	T	51.4	0	5*	2*	0	0	0	33	0.0	71.4	28.6	28.6	T	71.4
249	0	12*	16*	4	0	26	49	0.0	37.5	50.0	62.5	S	50.0	0	3*	4*	2*	0	1	30	0.0	33.3	44.4	66.7	S	44.4
250	0	8*	21*	3	0	26	48	0.0	25.0	65.6	75.0	S	65.6	0	2*	3*	2*	0	1	32	0.0	28.6	42.9	71.4	S	42.9
251	0	11*	17*	5	0	25	50	0.0	33.3	51.5	66.7	S	51.5	0	4*	0	0	0	0	36	0.0	99.9	0.0	0.0	T	99.9
252	0	3	29*	8*	0	18	37	0.0	7.5	72.5	92.5	S	72.5	0	0	14*	1	0	1	24	0.0	0.0	93.3	100.0	S	93.3
253	0	27*	11*	6	0	14	39	0.0	61.4	25.0	38.6	T	61.4	0	9*	0	0	0	0	31	0.0	99.9	0.0	0.0	T	99.9
254	0	27*	14*	5	0	11	36	0.0	58.7	30.4	41.3	T	58.7	0	10*	4*	0	0	0	26	0.0	71.4	28.6	28.6	T	71.4
255	0	36*	10	5	0	7	18	0.0	70.6	19.6	29.4	T	70.6	1	19*	4	0	0	0	16	4.2	79.2	16.7	16.7	T	79.2
256	0	23*	10*	3	0	22	46	0.0	63.9	27.8	36.1	T	63.9	0	9*	0	0	0	0	31	0.0	99.9	0.0	0.0	T	99.9
257	0	23*	8*	1	0	26	56	0.0	71.9	25.0	28.1	T	71.9	0	4*	0	0	0	0	36	0.0	99.9	0.0	0.0	T	99.9
258	0	22*	9*	2	0	25	53	0.0	66.7	27.3	33.3	T	66.7	0	2*	1*	1*	0	0	36	0.0	50.0	25.0	50.0	T	50.0
259	1	26*	7	2	0	22	48	2.8	72.2	19.4	25.0	T	72.2	0	5*	0	0	0	1	34	0.0	99.9	0.0	0.0	T	99.9
260	0	26*	8*	1	0	23	50	0.0	74.3	22.9	25.7	T	74.3	0	5*	0	0	0	0	35	0.0	99.9	0.0	0.0	T	99.9
261	0	25*	9*	1	0	23	55	0.0	71.4	25.7	28.6	T	71.4	0	3*	0	0	0	0	37	0.0	99.9	0.0	0.0	T	99.9
262	0	26*	9*	1	0	22	54	0.0	72.2	25.0	27.8	T	72.2	0	6*	0	0	0	0	34	0.0	99.9	0.0	0.0	T	99.9
263	0	28*	7	1	0	21	45	0.0	77.8	19.4	22.2	T	77.8	0	4*	1*	0	0	0	34	0.0	80.0	20.0	20.0	T	80.0
264	0	27*	8*	1	0	22	52	0.0	75.0	22.2	25.0	T	75.0	0	2*	0	0	0	0	38	0.0	99.9	0.0	0.0	T	99.9
265	0	30*	5	3	0	20	48	0.0	78.9	13.2	21.1	T	78.9	0	7*	0	0	0	0	33	0.0	99.9	0.0	0.0	T	99.9
266	0	20*	11*	3	0	24	53	0.0	58.8	32.4	41.2	T	58.8	0	5*	0	0	0	0	35	0.0	99.9	0.0	0.0	T	99.9
267	0	21*	16*	4	0	17	35	0.0	51.2	39.0	48.8	T	51.2	0	1*	3*	1*	0	0	35	0.0	20.0	60.0	80.0	S	60.0
268	0	25*	13*	6	0	15	28	0.0	56.8	29.5	43.2	T	56.8	0	8*	8*	2	0	0	22	0.0	44.4	44.4	55.6	TS	44.4
269	0	27*	5	4	0	21	38	0.0	75.0	13.9	25.0	T	75.0	0	6*	0	0	0	0	34	0.0	99.9	0.0	0.0	T	99.9
270	0	30*	5	2	0	20	42	0.0	81.1	13.5	18.9	T	81.1	0	9*	0	0	0	0	31	0.0	99.9	0.0	0.0	T	99.9
271	1	27*	5	2	0	22	52	2.9	77.1	14.3	20.0	T	77.1	0	3*	0	0	0	0	37	0.0	99.9	0.0	0.0	T	99.9
272	1	22*	7*	2	0	25	54	3.1	68.8	21.9	28.1	T	68.8	0	1*	0	0	0	0	38	0.0	99.9	0.0	0.0	T	99.9
273	0	20*	9*	7	0	21	55	0.0	55.6	25.0	44.4	T	55.6	0	0	3*	1*	0	0	36	0.0	0.0	75.0	99.9	S	75.0
274	0	24*	8*	4	0	22	54	0.0	66.7	22.2	33.3	T	66.7	0	0	1*	1*	0	0	38	0.0	0.0	50.0	99.9	SE	50.0
275	0	22*	7*	4	0	24	56	0.0	66.7	21.2	33.3	T	66.7	0	2*	1*	0	0	0	37	0.0	66.7	33.3	33.3	T	66.7

	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
TASK	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
276	0	25*	7	4	0	22	48	0.0	69.4	19.4	30.6	T	69.4	0	4*	2*	0	0	0	34	0.0	66.7	33.3	33.3	T	66.7
277	0	22*	9*	7	0	20	36	0.0	57.9	21.7	42.1	T	57.9	0	8*	3*	1	0	0	27	0.0	66.7	25.0	33.3	T	66.7
278	0	32*	4	5	0	17	36	0.0	78.0	13.8	22.0	T	78.0	0	8*	1	2	0	0	29	0.0	72.7	9.1	27.3	T	72.7
279	0	31*	3	5	0	19	43	0.0	79.5	7.7	20.5	T	79.5	0	7*	3*	0	0	0	29	0.0	70.0	30.0	30.0	T	70.0
280	0	28*	2	6	0	21	47	0.0	77.8	5.6	22.2	T	77.8	0	5*	1	0	0	0	34	0.0	83.3	16.7	16.7	T	83.3
281	0	25*	4	5	0	22	48	0.0	73.5	11.8	26.5	T	73.5	0	3*	1*	0	0	0	36	0.0	75.0	25.0	25.0	T	75.0
282	0	25*	5	5	0	22	48	0.0	71.4	14.3	28.6	T	71.4	0	4*	1*	0	0	0	35	0.0	80.0	20.0	20.0	T	80.0
283	0	24*	4	6	0	23	53	0.0	70.6	11.8	29.4	T	70.6	0	2*	1*	0	0	0	37	0.0	66.7	33.3	33.3	T	66.7
284	0	30*	7	5	0	15	37	0.0	71.4	16.7	28.6	T	71.4	0	12*	4*	0	0	0	23	0.0	75.0	25.0	25.0	T	75.0
285	0	22*	12*	5	0	19	38	0.0	56.4	30.8	43.6	T	56.4	0	5*	2*	1	0	0	31	0.0	62.5	25.0	37.5	T	62.5
286	0	24*	8*	5	0	20	52	0.0	64.9	21.6	35.1	T	64.9	0	2*	1*	0	0	0	37	0.0	66.7	33.3	33.3	T	66.7
287	0	24*	9*	5	0	19	50	0.0	63.2	23.7	36.8	T	63.2	0	2*	2*	0	0	0	36	0.0	50.0	50.0	50.0	TS	50.0
288	0	27*	7	4	0	20	55	0.0	71.1	18.4	28.9	T	71.1	0	3*	1*	1*	0	0	35	0.0	60.0	20.0	40.0	T	60.0
289	0	26*	7	4	0	20	51	0.0	70.3	18.9	29.7	T	70.3	0	3*	1*	1*	0	0	35	0.0	60.0	20.0	40.0	T	60.0
290	0	26*	7	4	0	20	41	0.0	70.3	18.9	29.7	T	70.3	0	5*	2*	1	0	0	32	0.0	62.5	25.0	37.5	T	62.5
291	0	28*	6	4	0	19	38	0.0	73.7	15.8	26.3	T	73.7	0	8*	1	0	0	0	31	0.0	88.9	11.1	11.1	T	88.9
292	0	33*	6	4	0	14	39	0.0	76.7	14.0	23.3	T	76.7	0	9*	3*	0	0	0	28	0.0	75.0	25.0	25.0	T	75.0
293	0	25*	6	5	0	21	54	0.0	69.4	16.7	30.6	T	69.4	0	3*	0	0	0	0	37	0.0	99.9	0.0	0.0	T	99.9
294	0	24*	6	5	0	22	49	0.0	68.6	17.1	31.4	T	68.6	0	5*	2*	0	0	0	33	0.0	71.4	28.6	28.6	T	71.4
295	0	31*	17*	3	0	7	33	0.0	60.8	33.3	39.2	T	60.8	0	8*	6*	0	0	0	26	0.0	57.1	42.9	42.9	T	57.1
296	0	20*	27*	9	0	2	8	0.0	35.7	48.2	64.3	S	48.2	1	13*	13*	1	0	0	12	3.6	46.4	46.4	50.0	TS	46.4
297	0	24*	23*	7	0	4	4	0.0	44.4	42.6	55.6	T	44.4	0	14*	11*	2	0	1	12	0.0	51.9	40.7	48.1	T	51.9
298	0	35*	17*	6	0	0	5	0.0	60.3	29.3	39.7	T	60.3	0	26*	5	1	0	0	7	0.0	81.3	15.6	18.8	T	81.3
299	0	23*	23*	12*	0	1	2	0.0	39.7	39.7	60.3	TS	39.7	0	19*	9*	7*	0	0	5	0.0	54.3	25.7	45.7	T	54.3
300	0	23*	19*	12*	0	4	3	0.0	42.6	35.2	57.4	T	42.6	0	15*	8*	6*	0	1	10	0.0	51.7	27.6	48.3	T	51.7
301	0	9*	28*	8	0	13	27	0.0	20.0	62.2	80.0	S	62.2	0	2*	4*	2*	0	0	32	0.0	25.0	50.0	75.0	S	50.0
302	0	20*	24*	8	0	6	6	0.0	38.5	46.2	61.5	S	46.2	0	12*	6*	5*	0	1	16	0.0	52.2	26.1	47.8	T	52.2
303	7	25*	11*	4	0	11	22	14.9	53.2	23.4	31.9	T	53.2	2	10*	1	1	0	1	25	14.3	71.4	7.1	14.3	T	71.4
304	4	19*	17*	3	0	16	26	9.3	44.2	39.5	46.5	T	44.2	1	5*	1	1	0	0	32	12.5	62.5	12.5	25.0	T	62.5
305	0	23*	23*	4	0	8	21	0.0	46.0	46.0	54.0	TS	46.0	1	11*	4*	1	0	0	23	5.9	64.7	23.5	29.4	T	64.7
306	0	34*	12*	4	0	8	18	0.0	68.0	24.0	32.0	T	68.0	0	18*	3*	0	0	0	19	0.0	85.7	14.3	14.3	T	85.7
307	0	34*	15*	4	0	5	23	0.0	64.2	28.3	35.8	T	64.2	0	16*	5*	2	0	0	16	0.0	69.6	21.7	30.4	T	69.6
308	0	35*	14*	4	0	5	17	0.0	66.0	26.4	34.0	T	66.0	1	13*	6*	1	0	0	19	4.8	61.9	28.6	33.3	T	61.9
309	0	46*	9	4	0	0	1	0.0	78.0	15.3	22.0	T	78.0	1	27*	3	1	0	0	6	3.1	84.4	9.4	12.5	T	84.4
310	0	30*	17*	1	0	9	22	0.0	62.5	35.4	37.5	T	62.5	0	15*	4*	1	0	0	19	0.0	75.0	20.0	25.0	T	75.0

	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
TASK	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
311	0	32*	16*	5	0	5	20	0.0	60.4	30.2	39.6	T	60.4	0	13*	3	1	0	0	23	0.0	76.5	17.6	23.5	T	76.5
312	1	27*	19*	5	0	6	9	1.9	51.9	36.5	46.2	T	51.9	1	10*	7*	3	0	1	18	4.8	47.6	33.3	47.6	T	47.6
313	0	7	38*	6	0	7	10	0.0	13.7	74.5	86.3	S	74.5	0	1	16*	4	0	1	18	0.0	4.8	76.2	95.2	S	76.2
314	0	8*	23*	7	0	20	34	0.0	21.1	60.5	78.9	S	60.5	0	0	7*	2*	0	3	28	0.0	0.0	77.8	100.0	S	77.8
315	0	7	30*	9	0	12	15	0.0	15.2	65.2	84.8	S	65.2	0	2	16*	5*	0	4	12	0.0	8.7	69.6	91.3	S	69.6
316	0	5	33*	6	0	14	21	0.0	11.4	75.0	88.6	S	75.0	0	1	8*	4*	0	2	24	0.0	7.7	61.5	92.3	S	61.5
317	0	14*	29*	6	0	9	17	0.0	28.6	59.2	71.4	S	59.2	0	6*	11*	3	0	3	17	0.0	30.0	55.0	70.0	S	55.0
318	0	39*	15*	5	0	0	1	0.0	66.1	25.4	33.9	T	66.1	0	28*	5	3	0	1	2	0.0	77.8	13.9	22.2	T	77.8
319	0	39*	17*	1	0	1	11	0.0	68.4	29.8	31.6	T	68.4	0	23*	3	1	0	0	12	0.0	85.2	11.1	14.8	T	85.2
320	0	42*	10	2	0	4	16	0.0	77.8	18.5	22.2	T	77.8	0	17*	1	0	0	0	22	0.0	94.4	5.6	5.6	T	94.4
321	0	40*	13*	1	0	4	22	0.0	74.1	24.1	25.9	T	74.1	2	25*	6	0	0	0	6	6.1	75.8	18.2	18.2	T	75.8
322	0	34*	11*	1	0	33	45	0.0	73.9	23.9	26.1	T	73.9	1*	4*	0	0	0	0	35	20.0	80.0	0.0	0.0	T	80.0
323	0	40*	12*	3	0	3	8	0.0	72.7	21.8	27.3	T	72.7	2	2*	4	0	0	0	11	7.1	78.6	14.3	14.3	T	78.6
324	0	33*	11*	2	0	12	49	0.0	71.7	23.9	28.3	T	71.7	0	4*	0	0	0	0	36	0.0	99.9	0.0	0.0	T	99.9
325	0	32*	14*	2	0	10	30	0.0	66.7	29.2	33.3	T	66.7	0	12*	1	0	0	0	26	0.0	92.3	7.7	7.7	T	92.3
326	0	35*	18*	4	0	1	4	0.0	61.4	31.6	38.6	T	61.4	1	22*	8*	2	0	0	7	3.0	66.7	24.2	30.3	T	66.7
327	0	21*	17*	1	0	19	33	0.0	53.8	43.6	46.2	T	53.8	0	6*	3*	0	0	0	28	0.0	66.7	33.3	33.3	T	66.7
328	0	26*	14*	2	0	16	25	0.0	61.9	33.3	38.1	T	61.9	0	8*	0	0	0	0	32	0.0	99.9	0.0	0.0	T	99.9
329	0	27*	14*	5	0	12	31	0.0	58.7	30.4	41.3	T	58.7	0	9*	2	0	0	0	29	0.0	81.8	18.2	18.2	T	81.8
330	0	36*	14*	6	0	2	1	0.0	64.3	25.0	35.7	T	64.3	0	26*	4	2	0	1	6	0.0	81.3	12.5	18.8	T	81.3
331	0	31*	12*	6	0	9	4	0.0	63.3	24.5	36.7	T	63.3	2	16*	7*	1	0	2	10	7.7	61.5	26.9	30.8	T	61.5
332	0	21*	23*	7	0	8	11	0.0	41.2	45.1	58.8	S	45.1	1	8*	7*	4*	0	0	19	5.0	40.0	35.0	55.0	T	40.0
333	1	29*	15*	5	0	8	20	2.0	58.0	30.0	40.0	T	58.0	2	10*	2	2	0	0	24	12.5	62.5	12.5	25.0	T	62.5
334	0	13*	24*	7	0	14	28	0.0	29.5	54.5	70.5	S	54.5	0	5*	9*	1	0	1	24	0.0	33.3	60.0	66.7	S	60.0
335	0	9*	15*	4	0	29	48	0.0	32.1	53.6	67.9	S	53.6	0	0	1*	1*	0	1	37	0.0	0.0	50.0	99.9	SE	50.0
336	0	9*	24*	10*	0	15	31	0.0	20.9	55.8	79.1	S	55.8	0	3*	7*	2	0	0	28	0.0	25.0	58.3	75.0	S	58.3
337	0	27*	16*	7	0	8	18	0.0	54.0	32.0	46.0	T	54.0	0	14*	3	1	0	0	22	0.0	77.8	16.7	22.2	T	77.8
338	0	34*	12*	6	0	6	13	0.0	65.4	23.1	34.6	T	65.4	0	20*	6*	2	0	0	12	0.0	71.4	21.4	28.6	T	71.4
339	0	22*	21*	6	0	8	11	0.0	44.9	42.9	55.1	T	44.9	1	11*	6*	3	0	0	18	4.8	52.4	28.6	42.9	T	52.4
340	0	15*	22*	10*	0	11	26	0.0	31.9	46.8	68.1	S	46.8	0	5*	3*	2*	0	0	30	0.0	50.0	30.0	50.0	T	50.0
341	0	21*	19*	10*	0	8	17	0.0	42.0	38.0	58.0	T	42.0	0	11*	4*	2	0	0	22	0.0	64.7	23.5	35.3	T	64.7
342	0	22*	20*	7	0	10	18	0.0	44.9	40.8	55.1	T	44.9	0	14*	2	1	0	0	23	0.0	82.4	11.8	17.6	T	82.4
343	0	26*	18*	7	0	7	13	0.0	51.0	35.3	49.0	T	51.0	0	14*	7*	0	0	0	19	0.0	66.7	33.3	33.3	T	66.7
344	1	15*	22*	7	0	13	27	2.2	33.3	48.9	64.4	S	48.9	0	5*	4*	2	0	0	29	0.0	45.5	36.4	54.5	T	45.5
345	0	13*	21*	8	0	17	21	0.0	31.0	50.0	69.0	S	50.0	0	7*	4*	2	0	0	27	0.0	53.8	30.8	46.2	T	53.8

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
346	0	13*	25*	5	0	15	32	0.0	30.2	58.1	69.8	S	58.1	0	3*	9*	1	0	0	27	0.0	23.1	69.2	76.9	S	69.2
347	1	8	31*	3	0	14	20	2.3	18.6	72.1	79.1	S	72.1	0	4*	5	4*	0	3	24	0.0	30.8	38.5	69.2	S	38.5
348	1	7	27*	8	0	15	30	2.3	16.3	62.8	81.4	S	62.8	0	5*	4*	2	0	1	28	0.0	45.5	36.4	54.5	T	45.5
349	1	10*	19*	9*	0	19	40	2.6	25.6	48.7	71.8	S	48.7	0	0	1*	1*	0	0	38	0.0	0.0	50.0	99.9	SE	50.0
350	0	21*	33*	4	0	1	2	0.0	36.2	56.9	63.8	S	56.9	0	13*	10*	5	0	0	12	0.0	46.4	35.7	53.6	T	46.4
351	0	21*	33*	5	0	0	2	0.0	35.6	55.9	64.4	S	55.9	1	16*	6*	3	0	0	14	3.8	61.5	23.1	34.6	T	61.5
352	0	17*	38*	4	0	0	2	0.0	28.8	64.4	71.2	S	64.4	1	16*	7*	4	0	0	11	3.6	57.1	25.0	39.3	T	57.1
353	0	21*	29*	6	0	3	16	0.0	37.5	51.8	62.5	S	51.8	0	12*	6*	0	0	0	22	0.0	66.7	33.3	33.3	T	66.7
354	0	32*	19*	7	0	1	0	0.0	55.2	32.8	44.8	T	55.2	1	23*	5	3	0	0	7	3.1	71.9	15.6	25.0	T	71.9
355	0	36*	17*	1	0	4	20	0.0	66.7	31.5	33.3	T	66.7	1	8*	1	0	0	0	30	10.0	80.0	10.0	10.0	T	80.0
356	0	19*	24*	5	0	10	9	0.0	39.6	50.0	60.4	S	50.0	1	8*	9*	1	0	3	17	5.3	42.1	47.4	52.6	S	47.4
357	0	19*	24*	3	0	12	25	0.0	41.3	52.2	58.7	S	52.2	0	5*	5*	0	0	0	29	0.0	50.0	50.0	50.0	TS	50.0
358	0	7	25*	5	0	21	39	0.0	18.9	67.6	81.1	S	67.6	0	2*	3*	0	0	0	35	0.0	40.0	60.0	60.0	S	60.0
359	0	10*	26*	5	0	17	26	0.0	24.4	63.4	75.6	S	63.4	0	4*	7*	2	0	4	23	0.0	30.8	53.8	69.2	S	53.8
360	4	39*	8	0	0	7	25	7.8	76.5	15.7	15.7	T	76.5	2	7*	3*	1	0	0	27	15.4	53.8	23.1	30.8	T	53.8
361	0	32*	13*	1	0	12	36	0.0	69.6	28.3	30.4	T	69.6	0	8*	1	0	0	0	31	0.0	88.9	11.1	11.1	T	88.9
362	1	15*	21*	6	0	14	13	2.3	34.9	48.8	62.8	S	48.8	0	6*	6*	2	0	1	25	0.0	42.9	42.9	57.1	TS	42.9
363	1	20*	15*	1	0	20	43	2.7	54.1	40.5	43.2	T	54.1	0	4*	2*	0	0	0	36	0.0	66.7	33.3	33.3	T	66.7
364	0	31*	19*	6	0	2	9	0.0	55.4	33.9	44.6	T	55.4	1	14*	8*	4	0	0	12	3.7	51.9	29.6	44.4	T	51.9
365	0	28*	13*	3	0	14	51	0.0	63.6	29.5	36.4	T	63.6	0	4*	0	1*	0	0	35	0.0	80.0	0.0	20.0	T	80.0
366	0	33*	19*	4	0	2	4	0.0	58.9	33.9	41.1	T	58.9	0	19*	3	3	0	0	15	0.0	76.0	12.0	24.0	T	76.0
367	1	23*	17*	5	0	12	19	2.2	50.0	37.0	47.8	T	50.0	0	4*	1	2*	0	0	33	0.0	57.1	14.3	42.9	T	57.1
368	0	34*	16*	1	0	7	31	0.0	66.7	31.4	33.3	T	66.7	0	10*	5*	3	0	0	22	0.0	55.6	27.8	44.4	T	55.6
369	0	5	29*	6	0	18	43	0.0	12.5	72.5	87.5	S	72.5	0	0	4*	1*	0	0	34	0.0	0.0	80.0	99.9	S	80.0
370	0	10*	30*	6	0	12	23	0.0	21.7	65.2	78.3	S	65.2	1	1	10*	2	0	0	25	7.1	7.1	71.4	85.7	S	71.4
371	2	11*	22*	5	0	18	32	5.0	27.5	55.0	67.5	S	55.0	1	2	5*	5*	0	0	27	7.7	15.4	38.5	76.9	SE	38.5
372	0	6	28*	3	0	21	31	0.0	16.2	75.7	83.8	S	75.7	0	5*	11*	2	0	1	21	0.0	27.8	61.1	72.2	S	61.1
373	0	15*	28*	6	0	9	24	0.0	30.6	57.1	69.4	S	57.1	0	8*	11*	0	0	1	18	0.0	42.1	57.9	57.9	S	57.9
374	2	42*	8	4	0	2	2	3.6	75.0	14.3	21.4	T	75.0	3	20*	4	0	0	0	13	11.1	74.1	14.8	14.8	T	74.1
375	0	32*	19*	6	0	1	2	0.0	56.1	33.3	43.9	T	56.1	1	18*	8*	3	0	0	9	3.3	60.0	26.7	36.7	T	60.0
376	0	48*	8	2	0	1	0	0.0	82.8	13.8	17.2	T	82.8	2	22*	4	0	0	0	11	7.1	78.6	14.3	14.3	T	78.6
377	0	20*	19*	5	0	14	32	0.0	45.5	43.2	54.5	T	45.5	0	6*	5*	0	0	1	27	0.0	54.5	45.5	45.5	T	54.5
378	4	14*	20*	7	0	13	22	8.9	31.1	44.4	60.0	S	44.4	1	3*	2*	3*	0	0	31	11.1	33.3	22.2	55.6	TE	33.3
379	2	9*	27*	3	0	17	39	4.9	22.0	65.9	73.2	S	65.9	0	3*	2*	0	0	0	35	0.0	60.0	40.0	40.0	T	60.0
380	0	41*	10	2	0	5	13	0.0	77.4	18.9	22.6	T	77.4	0	23*	3	0	0	0	13	0.0	88.5	11.5	11.5	T	88.5

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES						Q6 NO	PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES						Q2 NO	PERCENTAGES				MODE	
	P	T	S	E	O	N		P	I	S	S+E	MO	%	P	T	S	E	O	N		P	I	S	S+E	MO	%
381	3	13*	20*	7	0	15	27	7.0	30.2	46.5	62.8	S	46.5	0	0	5*	1	0	0	34	0.0	0.0	83.3	100.0	S	83.3
382	2	9*	29*	3	0	15	32	4.7	20.9	67.4	74.4	S	67.4	0	2*	4*	1	0	0	33	0.0	28.6	57.1	71.4	S	57.1
383	2	17*	19*	5	0	15	27	4.7	39.5	44.2	55.8	S	44.2	0	2*	3*	0	0	0	35	0.0	40.0	60.0	60.0	S	60.0
384	2	13*	18*	6	0	19	38	5.1	33.3	46.2	61.5	S	46.2	0	2*	2*	1*	0	0	35	0.0	40.0	40.0	60.0	IS	40.0
385	0	10*	27*	5	0	16	33	0.0	23.8	64.3	76.2	S	64.3	0	7*	5*	2	0	0	26	0.0	50.0	35.7	50.0	I	50.0
386	1	6	18*	7*	0	26	43	3.1	18.8	56.3	78.1	S	56.3	1	1	4*	3*	0	0	31	11.1	11.1	44.4	77.8	S	44.4
387	2	11*	19*	7	0	19	35	5.1	28.2	48.7	66.7	S	48.7	1	4*	3*	3*	0	0	29	9.1	36.4	27.3	54.5	I	36.4
388	4	11*	25*	6	0	13	12	8.7	23.9	54.3	67.4	S	54.3	1	2	13*	4*	0	2	18	5.0	10.0	65.0	85.0	S	65.0
389	0	5	31*	13*	0	9	9	0.0	10.2	63.3	89.8	S	63.3	1	1	14*	9*	0	0	15	4.0	4.0	56.0	92.0	S	56.0
390	0	6	37*	8	0	7	12	0.0	11.8	72.5	88.2	S	72.5	0	5*	11*	4*	0	1	19	0.0	25.0	55.0	75.0	S	55.0
391	0	3	29*	8*	0	18	30	0.0	7.5	72.5	92.5	S	72.5	0	0	4*	5*	0	0	31	0.0	0.0	44.4	100.0	E	55.6
392	1	6	20*	8*	0	23	39	2.9	17.1	57.1	80.0	S	57.1	0	1	6*	1	0	1	31	0.0	12.5	75.0	87.5	S	75.0
393	0	2	26*	6	0	23	48	0.0	5.9	76.5	94.1	S	76.5	0	1*	3*	1*	0	1	34	0.0	20.0	60.0	80.0	S	60.0
394	0	27*	25*	7	0	0	0	0.0	45.8	42.4	54.2	T	45.8	2	22*	8*	2	0	0	5	5.9	64.7	23.5	29.4	T	64.7
395	0	20*	30*	7	0	2	0	0.0	35.1	52.6	64.9	S	52.6	1	18*	7*	3	0	0	10	3.4	62.1	24.1	34.5	T	62.1
396	0	32*	22*	5	0	0	0	0.0	54.2	37.3	45.8	T	54.2	0	27*	4	1	0	0	7	0.0	84.4	12.5	15.6	T	84.4
397	0	33*	21*	4	0	1	1	0.0	56.9	36.2	43.1	T	56.9	1	22*	8*	1	0	0	7	3.1	68.8	25.0	28.1	T	68.8
398	1	32*	13*	0	0	12	40	2.2	69.6	28.3	28.3	T	69.6	0	3*	2*	0	0	0	35	0.0	60.0	40.0	40.0	T	60.0
399	0	17*	18*	2	0	21	42	0.0	45.9	48.6	54.1	S	48.6	0	3*	1*	1*	0	0	35	0.0	60.0	20.0	40.0	T	60.0
400	0	27*	21*	0	0	8	25	0.0	56.3	43.8	43.8	T	56.3	0	15*	3	2	0	0	19	0.0	75.0	15.0	25.0	T	75.0
401	0	27*	27*	3	0	2	2	0.0	47.4	47.4	52.6	TS	47.4	0	17*	9*	2	0	1	10	0.0	60.7	32.1	39.3	T	60.7
402	0	24*	26*	1	0	8	27	0.0	47.1	51.0	52.9	S	51.0	0	12*	5*	1	0	0	22	0.0	66.7	27.8	33.3	T	66.7
403	0	29*	23*	4	0	3	7	0.0	51.8	41.1	48.2	T	51.8	0	13*	5*	1	0	1	20	0.0	68.4	26.3	31.6	T	68.4
404	2	5	26*	5	0	20	32	5.3	13.2	68.4	81.6	S	68.4	0	4*	9*	2	0	0	24	0.0	26.7	60.0	73.3	S	60.0
405	0	4	27*	8*	0	19	31	0.0	10.3	69.2	89.7	S	69.2	1	0	9*	3*	0	0	27	7.7	0.0	69.2	92.3	S	69.2
406	0	4	28*	7	0	19	37	0.0	10.3	71.8	89.7	S	71.8	0	0	9*	2	0	1	28	0.0	0.0	81.8	100.0	S	81.8
407	0	6	29*	7	0	16	19	0.0	14.3	69.0	85.7	S	69.0	1	0	10*	2	0	1	26	7.7	0.0	76.9	92.3	S	76.9
408	1	8*	19*	5	0	25	49	3.0	24.2	57.6	72.7	S	57.6	0	2*	2*	0	0	0	36	0.0	50.0	50.0	50.0	IS	50.0
409	0	11*	17*	5	0	25	50	0.0	33.3	51.5	66.7	S	51.5	0	4*	4*	0	0	0	32	0.0	50.0	50.0	50.0	IS	50.0
410	0	10*	29*	4	0	14	27	0.0	23.3	67.4	76.7	S	67.4	1	0	9*	3*	0	0	26	7.7	0.0	69.2	92.3	S	69.2
411	0	12*	33*	6	0	8	16	0.0	23.5	64.7	76.5	S	64.7	0	5*	10*	5*	0	0	20	0.0	25.0	50.0	75.0	S	50.0
412	0	7	32*	8	0	11	28	0.0	14.9	68.1	85.1	S	68.1	1	2	12*	2	0	0	22	5.9	11.8	70.6	82.4	S	70.6
413	0	7	27*	9*	0	15	36	0.0	16.3	62.8	83.7	S	62.8	1	5*	5*	3*	0	0	26	7.1	35.7	35.7	57.1	IS	35.7
414	0	9	26*	11*	0	13	34	0.0	19.6	56.5	80.4	S	56.5	1	5*	5*	2	0	0	27	7.7	38.5	38.5	53.8	IS	38.5
415	0	5	31*	10*	0	12	30	0.0	10.9	67.4	89.1	S	67.4	0	0	13*	4*	0	0	23	0.0	0.0	76.5	100.0	S	76.5

TASK	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
416	0	5	27*	6	0	19	38	0.0	13.2	71.1	86.8	S	71.1	1	2	6*	2	0	0	28	9.1	18.2	54.5	72.7	S	54.5
417	0	13*	21*	7	0	17	44	0.0	31.7	51.2	68.3	S	51.2	0	6*	6*	2	0	0	26	0.0	42.9	42.9	57.1	TS	42.9
418	1	9*	23*	7	0	18	45	2.5	22.5	57.5	75.0	S	57.5	0	5*	4*	0	0	0	31	0.0	55.6	44.4	44.4	T	55.6
419	0	12*	24*	7	0	15	31	0.0	27.9	55.8	72.1	S	55.8	1	2	6*	3*	0	0	27	8.3	16.7	50.0	75.0	S	50.0
420	0	38*	15*	2	0	4	22	0.0	69.1	27.3	29.9	T	69.1	1	12*	3	0	0	0	23	6.3	75.0	18.8	18.8	T	75.0
421	0	37*	14*	3	0	5	15	0.0	68.5	25.9	31.5	T	68.5	1	12*	2	0	0	0	24	6.7	80.0	13.3	13.3	T	80.0
422	0	16*	24*	3	0	15	36	0.0	37.2	55.8	62.8	S	55.8	0	4*	5*	2	0	0	26	0.0	36.4	45.5	63.6	S	45.5
423	0	9*	22*	7	0	20	47	0.0	23.7	57.9	76.3	S	57.9	0	2	7*	2	0	0	28	0.0	18.2	63.6	81.8	S	63.6
424	0	6	22*	8*	0	22	50	0.0	16.7	61.1	83.3	S	61.1	0	1	5*	3*	0	0	31	0.0	11.1	55.6	88.9	S	55.6
425	0	3	26*	8*	0	21	45	0.0	8.1	70.3	91.9	S	70.3	0	1	8*	4*	0	0	27	0.0	7.7	61.5	92.3	S	61.5
426	1	8*	20*	4	0	24	36	3.0	24.2	60.6	72.7	S	60.6	0	2	6*	3*	0	0	29	0.0	18.2	54.5	81.8	S	54.5
427	0	13*	26*	4	0	15	26	0.0	30.2	60.5	69.8	S	60.5	0	4*	3*	2*	0	1	30	0.0	44.4	33.3	55.6	T	44.4
428	0	2	40*	7	0	10	18	0.0	4.1	81.6	95.9	S	81.6	0	2	11*	3	0	0	22	0.0	12.5	68.8	87.5	S	68.8
429	0	10*	24*	0	0	24	48	0.0	29.4	70.6	70.6	S	70.6	0	4*	1*	0	0	0	34	0.0	80.0	20.0	20.0	T	80.0
430	0	13*	24*	2	0	19	41	0.0	33.3	61.5	66.7	S	61.5	0	6*	1	1	0	0	31	0.0	75.0	12.5	25.0	T	75.0
431	0	17*	23*	3	0	15	34	0.0	39.5	53.5	60.5	S	53.5	0	7*	10*	4	1	0	17	0.0	31.8	45.5	63.6	S	45.5
432	0	14*	24*	5	0	15	33	0.0	32.6	55.8	67.4	S	55.8	0	7*	8*	1	0	0	23	0.0	43.8	50.0	56.3	S	50.0
433	0	15*	22*	4	0	17	35	0.0	36.6	53.7	63.4	S	53.7	0	3*	7*	1	0	0	28	0.0	27.3	63.6	72.7	S	63.6
434	0	12*	24*	4	0	17	35	0.0	31.7	58.5	68.3	S	58.5	0	3*	7*	1	0	0	28	0.0	27.3	63.6	72.7	S	63.6
435	0	40*	10	4	0	4	10	0.0	74.1	18.5	25.9	T	74.1	1	13*	10*	1	0	1	12	4.0	52.0	40.0	44.0	T	52.0
436	0	36*	11*	2	0	9	43	0.0	73.5	22.4	26.5	T	73.5	0	4*	3*	1	0	1	31	0.0	50.0	37.5	50.0	T	50.0
437	0	20*	19*	4	0	15	35	0.0	46.5	44.2	53.5	T	46.5	0	5*	1	0	0	0	33	0.0	83.3	16.7	16.7	T	83.3
438	0	25*	19*	5	0	9	17	0.0	51.0	38.8	49.0	T	51.0	0	15*	6*	1	0	0	16	0.0	68.2	27.3	31.8	T	68.2
439	0	17*	20*	7	0	14	17	0.0	38.6	45.5	61.4	S	45.5	1	5*	8*	2	0	0	23	6.3	31.3	50.0	62.5	S	50.0
440	1	13*	23*	5	0	16	20	2.4	31.0	54.8	66.7	S	54.8	0	2*	6*	2*	0	0	29	0.0	20.0	60.0	80.0	S	60.0
441	1	12*	18*	2	0	25	51	3.0	36.4	54.5	60.6	S	54.5	0	1*	0	0	0	0	38	0.0	99.9	0.0	0.0	T	99.9
442	0	13*	21*	2	0	22	45	0.0	36.1	58.3	63.9	S	58.3	0	1	4*	1	0	0	34	0.0	16.7	66.7	83.3	S	66.7
443	0	29*	17*	5	0	7	14	0.0	56.9	33.3	43.1	T	56.9	1	10*	7*	1	0	0	20	5.3	52.6	36.8	42.1	T	52.6
444	0	15*	21*	5	0	17	39	0.0	36.6	51.2	63.4	S	51.2	0	1*	2*	1*	0	0	35	0.0	25.0	50.0	75.0	S	50.0
445	0	24*	20*	6	0	8	14	0.0	48.0	40.0	52.0	T	48.0	0	7*	8*	4*	0	1	19	0.0	36.8	42.1	63.2	S	42.1
446	1	18*	20*	4	0	15	36	2.3	41.9	46.5	55.8	S	46.5	0	2*	4*	2*	0	0	32	0.0	25.0	50.0	75.0	S	50.0
447	0	33*	11*	7	0	7	22	0.0	64.7	21.6	35.3	T	64.7	0	13*	4*	1	0	0	21	0.0	72.2	22.2	27.8	T	72.2
448	0	7	22*	9*	0	20	28	0.0	18.4	57.9	81.6	S	57.9	1	2	10*	6*	0	1	19	5.3	10.5	52.6	84.2	S	52.6
449	0	5	22*	10*	0	21	40	0.0	13.5	59.5	86.5	S	59.5	0	2	6*	3*	0	0	28	0.0	18.2	54.5	81.8	S	54.5
450	0	12*	17*	10*	0	19	40	0.0	30.8	43.6	69.2	S	43.6	0	1	3*	2*	0	3	30	0.0	16.7	50.0	83.3	S	50.0

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	WORKER DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE		SUPERVISOR DISTRIBUTION OF SUGGESTED LEARNING SOURCES							PERCENTAGES				MODE	
TASK	P	T	S	E	O	N	Q6 NO	P	T	S	S+E	MO	%	P	T	S	E	O	N	Q2 NO	P	T	S	S+E	MO	%
451	0	11*	23*	6	0	17	34	0.0	27.5	57.5	72.5	S	57.5	0	3*	4*	0	0	4	28	0.0	42.9	57.1	57.1	S	57.1
452	0	10*	30*	6	0	12	20	0.0	21.7	65.2	78.3	S	65.2	0	3*	9*	2	0	2	23	0.0	21.4	64.3	78.6	S	64.3
453	1	21*	14*	3	0	19	44	2.6	53.8	35.9	43.6	T	53.8	0	5*	0	0	0	0	34	0.0	99.9	0.0	0.0	T	99.9
454	0	27*	9*	4	0	18	47	0.0	67.5	22.5	32.5	T	67.5	0	5*	0	0	0	0	34	0.0	99.9	0.0	0.0	T	99.9
455	1	27*	9*	3	0	18	48	2.5	67.5	22.5	30.0	T	67.5	2*	2*	0	0	0	0	35	50.0	50.0	0.0	0.0	PT	50.0
456	1	24*	10*	3	0	20	48	2.6	63.2	26.3	34.2	T	63.2	0	3*	0	0	0	0	36	0.0	99.9	0.0	0.0	T	99.9
457	1	20*	19*	6	0	12	35	2.2	43.5	41.3	54.3	T	43.5	1	3*	5*	4*	0	0	26	7.7	23.1	38.5	69.2	S	38.5
458	0	14*	19*	8	0	17	36	0.0	34.1	46.3	65.9	S	46.3	0	1	4*	2*	0	0	33	0.0	14.3	57.1	85.7	S	57.1
459	2	24*	11*	5	0	16	44	4.8	57.1	26.2	38.1	T	57.1	0	4*	2*	0	0	0	34	0.0	66.7	33.3	33.3	T	66.7
460	0	11*	26*	10*	0	12	18	0.0	23.4	55.3	76.6	S	55.3	1	2	9*	4*	0	1	22	6.3	12.5	56.3	81.3	S	56.3
461	0	13*	24*	12*	0	9	15	0.0	26.5	49.0	73.5	S	49.0	1	2	10*	3	0	1	22	6.3	12.5	62.5	81.3	S	62.5
462	1	12*	25*	11*	0	9	12	2.0	24.5	51.0	73.5	S	51.0	1	5*	13*	4	0	0	16	4.3	21.7	56.5	73.9	S	56.5
463	0	10*	29*	9	0	10	14	0.0	20.8	60.4	79.2	S	60.4	1	2	10*	4*	0	0	22	5.9	11.8	58.8	82.4	S	58.8
464	0	10*	27*	9	0	12	25	0.0	21.7	58.7	78.3	S	58.7	1	0	9*	4*	0	0	25	7.1	0.0	64.3	92.9	S	64.3
465	0	13*	27*	8	0	10	30	0.0	27.1	56.3	72.9	S	56.3	0	2	7*	5*	0	0	25	0.0	14.3	50.0	85.7	S	50.0
466	0	11*	26*	11*	0	10	14	0.0	22.9	54.2	77.1	S	54.2	1	2	15*	6*	0	0	15	4.2	8.3	62.5	87.5	S	62.5
467	0	14*	25*	8	0	11	16	0.0	29.8	53.2	70.2	S	53.2	2	2	13*	5*	0	0	17	9.1	9.1	59.1	81.8	S	59.1
468	0	13*	23*	7	0	15	29	0.0	30.2	53.5	69.8	S	53.5	0	1	9*	4*	0	0	25	0.0	7.1	64.3	92.9	S	64.3
469	2	30*	11*	3	0	12	27	4.3	65.2	23.9	30.4	T	65.2	1	10*	3*	1	0	0	24	6.7	66.7	20.0	26.7	T	66.7
470	1	28*	10*	5	0	14	32	2.3	63.6	22.7	34.1	T	63.6	0	7*	1	0	0	0	31	0.0	87.5	12.5	12.5	T	87.5
471	1	12*	19*	8*	0	18	37	2.5	30.0	47.5	67.5	S	47.5	0	2*	4*	4*	0	0	30	0.0	20.0	40.0	80.0	SE	40.0
472	0	9*	25*	6	0	18	37	0.0	22.5	62.5	77.5	S	62.5	0	0	7*	5*	0	0	27	0.0	0.0	58.3	100.0	S	58.3
473	1	4	29*	2	0	22	46	2.8	11.1	80.6	86.1	S	80.6	0	0	4*	2*	0	1	32	0.0	0.0	66.7	100.0	S	66.7
474	0	4	29*	5	0	18	42	0.0	10.5	76.3	89.5	S	76.3	0	1	4*	3*	0	1	30	0.0	12.5	50.0	87.5	S	50.0

TT: 145
7702
9423
2686
2
7422
15527

119
2509
2602
875
2
245
12408

203

194

Table C-7

Supervisor Suggestions (Q10 and Q11)[a]

Question 10: Possible to Improve Procedures (Supervisors)

(Part 1) Based on your total experience as a supervisor of Business Data Programmers, do you feel that for some of their work activities there could be a better or more effective way of doing the activity? That is, of the activities you checked (in Question 2), could an improvement be made on the present way in which Business Data Programmers typically perform an activity?

Response: Check mark for each task where procedures could be improved.

(Part 2) For those activities checked as possible to improve procedures, suggest the main way for improving such procedures.

Categories of the Response Scale:

a. Provide a readable, ready-reference handbook or similar guide for use on the job (H).
b. Expand, correct, or clarify the existing directives on the matter (D).
c. Improve the content of formal school training on the matter (T).
d. Provide research or special study for improving the present procedures (R).
e. I don't know how it might be improved but I think it can (?).
f. Other (comments to be written in) (O).

Question 11: Poorly Performed Task (Supervisors)

(Part 1) Based on your total experience as a supervisor of Business Data Programmers, do you feel that many Business Data Programmers perform certain of their activities poorly or unsatisfactorily, even after a reasonable amount of time on the job? That is, of the activities checked (in Question 2), which ones are usually not done by experienced

[a]Responses were summarized only for tasks each supervisor had checked on Q2.

Table C-7-continued

Business Data Programmers as well as they could be? This is not a rating of individual programmers, but rather an indication of activities which could be improved under the right circumstances.

Response: Check mark for each task where performance is generally unsatisfactory.

(Part 2) For those activities checked as poorly performed, suggest the main reason for such performance.

Categories of the Response Scale:

a. Lack of interest or poor attitude on the part of Business Data Programmers (I).
b. Ineffective job training on the matter, in formal school training program (T).
c. Business Data Programmers are overburdened with more important matters and do not have time to perform this activity properly (M).
d. The activity is an extremely difficult one to master (D).
e. I don't know the reason but I believe the general performance by many Business Data Programmers is poor or unsatisfactory (?).
f. Other (comments to be written in) (O).

Each of the 22 columns of Table C-7 is identified below.

Column 113: Number of Group 1 supervisors indicating that an improvement is possible in the way of performing the task.

Column 114: Percent of Group 1 supervisors checking the task (Question 10).

Note: Asterisks (*) appear next to percentages in Column 114 when that percentage represents 10% or more of all supervisors included in Group 1.

Columns 115 through 120: Number of Group 1 supervisors using each category to suggest a way of improving task procedures.

Table C-7-continued

Column 121: Percent of suggestions that cited training content (T) as the main way by which task procedures could be improved.

Column 122: Most common suggestion (mode) given by Group 1 supervisors. As in Table C-6, occasionally more than one suggestion category tied for most common use. The table displays up to two modal categories. More than two modal categories for a task are coded on Table C-7 as "MM", an abbreviation for "multiple modes."

Column 123: Percent of suggestions that cited the modal category (Column 122) as the main way by which task procedures could be improved.

Columns 124 through 134: Same as Columns 113 through 123 but for indications and suggested reasons on Question 11, using Group 2 supervisors. Column 132 pertains to "ineffective job training," not necessarily "training content" as in Question 10 and Column 121.

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 7: (Q10 & 11) SUPERVISOR SUGGESTIONS

	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	M	D	T	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
1	4	11.1*	0	2	0	2	0	0	0.0	DR	50.0	8	20.0*	1	2	2	3	0	0	25.0	D	37.5
2	8	22.2*	0	1	4	3	0	0	50.0	T	50.0	9	22.5*	0	3	5	1	0	0	33.3	M	55.6
3	6	16.7*	0	2	1	1	0	1	20.0	D	40.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
4	15	41.7*	4	3	6	0	0	1	42.9	T	42.9	18	45.0*	1	1	6	0	0	0	5.6	I	61.1
5	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
6	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
7	6	16.7*	1	0	3	0	0	1	60.0	T	60.0	5	12.5*	0	2	1	2	0	0	40.0	T	40.0
8	10	27.8*	5	0	4	1	0	0	40.0	M	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
9	4	11.1*	0	2	1	0	1	0	25.0	D	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
10	6	16.7*	0	1	2	2	1	0	33.3	TR	33.3	3	7.5	1	0	0	2	0	0	0.0	D	66.7
11	6	16.7*	3	1	0	1	1	0	0.0	M	50.0	2	5.0	1	0	0	0	1	0	0.0	IT	50.0
12	4	11.1*	2	0	0	1	1	0	0.0	M	50.0	1	2.5	0	0	0	0	1	0	0.0	T	100.0
13	2	5.6	1	0	0	0	0	0	0.0	M	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
14	8	22.2*	1	1	2	3	0	0	28.6	R	42.9	4	10.0*	0	0	4	0	0	0	0.0	M	100.0
15	8	22.2*	5	0	2	0	0	0	28.6	M	71.4	4	10.0*	1	2	0	0	1	0	50.0	T	50.0
16	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
17	1	2.8	1	0	0	0	0	0	0.0	M	100.0	1	2.5	0	0	0	0	1	0	0.0	?	100.0
18	1	2.8	1	0	0	0	0	0	0.0	M	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
19	5	13.9*	2	0	2	0	0	0	50.0	MT	50.0	3	7.5	2	0	0	0	1	0	0.0	I	66.7
20	2	5.6	1	0	0	0	0	0	0.0	M	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
21	2	5.6	1	1	0	0	0	0	0.0	MD	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
22	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
23	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
24	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	2	5.0	0	0	0	2	0	0	0.0	D	100.0
25	1	2.8	0	1	0	0	0	0	0.0	D	100.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
26	2	5.6	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
27	5	13.9*	0	0	3	2	0	0	60.0	T	60.0	5	12.5*	1	0	3	1	0	0	0.0	M	60.0
28	2	5.6	0	2	0	0	0	0	0.0	D	100.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
29	2	5.6	0	0	2	0	0	0	100.0	T	100.0	2	5.0	1	1	0	0	0	0	50.0	IT	50.0
30	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0

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	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	H	D	I	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
31	1	2.8	1	0	0	0	0	0	0.0	H	100.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
32	2	5.6	2	0	0	0	0	0	0.0	H	100.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
33	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
34	2	5.6	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
35	1	2.8	0	0	0	0	0	0	0.0		0.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
36	7	19.4*	1	0	4	0	1	0	66.7	T	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
37	5	13.9*	1	0	1	0	0	2	25.0	D	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
38	2	5.6	0	1	0	1	0	0	0.0	DR	50.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
39	1	2.8	0	0	0	0	0	1	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
40	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
41	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
42	13	36.1*	6	1	4	1	0	0	33.3	M	50.0	6	15.0*	4	1	0	0	0	1	16.7	I	66.7
43	4	11.1*	2	0	1	1	0	0	25.0	M	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
44	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
45	4	11.1*	0	0	1	2	1	0	25.0	R	50.0	2	5.0	1	0	1	0	0	0	0.0	IM	50.0
46	0	0.0	0	0	0	0	0	0	0.0		0.0	2	5.0	0	0	0	2	0	0	0.0	D	100.0
47	3	8.3	0	1	0	0	0	1	0.0	DO	50.0	2	5.0	1	0	1	0	0	0	0.0	IM	50.0
48	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
49	7	19.4*	3	3	0	0	0	0	0.0	HD	50.0	5	12.5*	2	1	2	0	0	0	20.0	IM	40.0
50	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
51	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
52	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
53	3	8.3	1	0	2	0	0	0	66.7	T	66.7	1	2.5	0	1	0	0	0	0	100.0	T	100.0
54	2	5.6	1	1	0	0	0	0	0.0	MD	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
55	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
56	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
57	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
58	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
59	6	16.7*	1	0	4	0	1	0	66.7	T	66.7	4	10.0*	0	2	1	0	0	1	50.0	T	50.0
60	4	11.1*	1	0	2	1	0	0	50.0	T	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
61	5	13.9*	1	0	2	1	0	0	50.0	T	50.0	4	10.0*	0	1	2	0	0	1	25.0	M	50.0
62	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
63	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
64	2	5.6	0	1	0	1	0	0	0.0	DR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
65	9	25.0*	2	1	3	0	1	0	42.9	T	42.9	8	20.0*	1	2	4	1	0	0	25.0	M	50.0

	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	H	D	I	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
66	3	8.3	1	0	2	0	0	0	66.7	T	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
67	1	2.8	0	0	1	0	0	0	100.0	T	100.0	3	7.5	0	0	0	2	1	0	0.0	D	66.7
68	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
69	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
70	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
71	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
72	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
73	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
74	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
75	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
76	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
77	8	22.2*	1	0	5	0	1	0	71.4	T	71.4	0	0.0	0	0	0	0	0	0	0.0		0.0
78	8	22.2*	0	1	3	4	0	0	37.5	R	50.0	6	15.0*	1	3	0	2	0	0	50.0	T	50.0
79	9	25.0*	5	0	2	1	1	0	25.0	M	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
80	1	2.8	1	0	0	0	0	0	0.0	H	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
81	3	8.3	0	0	2	0	0	0	100.0	T	100.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
82	4	11.1*	0	0	1	1	1	1	25.0	MM	0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
83	6	16.7*	1	1	2	1	0	1	33.3	T	33.3	5	12.5*	0	0	0	3	0	1	0.0	D	75.0
84	7	19.4*	1	1	3	0	0	1	50.0	T	50.0	4	10.0*	1	0	0	0	1	1	0.0	MM	0.0
85	8	22.2*	3	3	2	0	0	0	25.0	HD	37.5	5	12.5*	3	0	0	0	1	0	0.0	I	75.0
86	6	16.7*	3	0	2	0	0	1	33.3	H	50.0	4	10.0*	0	0	1	1	0	1	0.0	MM	0.0
87	4	11.1*	2	0	1	0	0	1	25.0	H	50.0	4	10.0*	0	0	1	1	0	1	0.0	MM	0.0
88	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
89	5	13.9*	2	0	0	2	1	0	0.0	HR	40.0	2	5.0	0	1	1	0	0	0	50.0	TM	50.0
90	10	27.8*	1	0	4	3	1	0	44.4	T	44.4	5	12.5*	1	1	0	2	0	1	20.0	D	40.0
91	9	25.0*	2	1	4	1	0	1	44.4	T	44.4	5	12.5*	0	3	0	2	0	0	60.0	T	60.0
92	3	8.3	2	0	1	0	0	0	33.3	H	66.7	1	2.5	1	0	0	0	0	0	0.0	I	100.0
93	4	11.1*	1	1	0	1	0	0	0.0	MM	0.0	4	10.0*	0	2	0	1	1	0	50.0	T	50.0
94	2	5.6	0	1	0	1	0	0	0.0	DR	50.0	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
95	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
96	6	16.7*	1	2	1	1	1	0	16.7	D	33.3	1	2.5	0	0	1	0	0	0	0.0	M	100.0
97	8	22.2*	2	0	0	4	1	0	0.0	R	57.1	3	7.5	0	0	1	2	0	0	0.0	D	66.7
98	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
99	8	22.2*	2	1	0	2	2	0	0.0	MM	0.0	3	7.5	0	0	0	3	0	0	0.0	D	100.0
100	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0

TASK	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
	N	%	H	D	T	R	?	0	%T	MO	%	N	%	I	T	M	D	?	0	%T	MO	%
101	12	33.3*	0	2	6	1	2	0	54.5	T	54.5	8	20.0*	2	3	1	2	0	0	37.5	T	37.5
102	8	22.2*	2	0	3	0	2	0	42.9	T	42.9	3	7.5	1	1	1	0	0	0	33.3	MM	0.0
103	3	8.3	0	1	2	0	0	0	66.7	T	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
104	4	11.1*	2	0	2	0	0	0	50.0	HT	50.0	9	22.5*	5	1	3	0	0	0	11.1	I	55.6
105	2	5.6	1	1	0	0	0	0	0.0	HD	50.0	4	10.0*	3	0	1	0	0	0	0.0	I	75.0
106	10	27.8*	4	2	4	0	0	0	40.0	HT	40.0	2	5.0	1	1	0	0	0	0	50.0	IT	50.0
107	6	16.7*	0	2	3	1	0	0	50.0	T	50.0	7	17.5*	1	1	5	0	0	0	14.3	M	71.4
108	9	25.0*	0	0	4	3	2	0	44.4	T	44.4	3	7.5	0	1	1	0	1	0	33.3	MM	0.0
109	5	13.9*	1	0	2	1	0	0	50.0	T	50.0	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
110	3	8.3	0	0	3	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
111	4	11.1*	1	0	3	0	0	0	75.0	T	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0
112	5	13.9*	1	1	2	0	0	0	50.0	T	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
113	4	11.1*	0	2	1	0	1	0	25.0	D	50.0	2	5.0	1	0	0	0	1	0	0.0	IT	50.0
114	1	2.8	0	1	0	0	0	0	0.0	D	100.0	2	5.0	0	0	1	1	0	0	0.0	MD	50.0
115	11	30.6*	3	0	2	1	2	1	22.2	H	33.3	7	17.5*	3	1	3	0	0	0	14.3	IM	42.9
116	2	5.6	1	0	1	0	0	0	50.0	HT	50.0	9	22.5*	6	0	2	0	1	0	0.0	I	66.7
117	2	5.6	0	0	0	2	0	0	0.0	R	100.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
118	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
119	3	8.3	0	0	1	0	1	0	50.0	T?	50.0	3	7.5	0	0	1	2	0	0	0.0	D	66.7
120	7	19.4*	2	1	2	1	0	0	33.3	HT	33.3	8	20.0*	4	2	0	0	0	2	25.0	I	50.0
121	4	11.1*	2	0	1	1	0	0	25.0	H	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
122	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
123	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
124	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
125	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
126	5	13.9*	1	1	1	0	2	0	20.0	?	40.0	2	5.0	0	0	1	0	0	0	0.0	M	100.0
127	4	11.1*	0	0	3	1	0	0	75.0	T	75.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
128	9	25.0*	4	1	3	0	0	0	37.5	H	50.0	12	30.0*	3	4	3	0	0	2	33.3	T	33.3
129	5	13.9*	3	1	1	0	0	0	20.0	H	60.0	2	5.0	1	0	0	1	0	0	0.0	ID	50.0
130	2	5.6	1	0	1	0	0	0	50.0	HT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
131	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
132	5	13.9*	0	0	2	2	1	0	40.0	TR	40.0	3	7.5	0	0	1	2	0	0	0.0	D	66.7
133	2	5.6	0	0	0	1	1	0	0.0	R?	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
134	2	5.6	0	0	0	2	0	0	0.0	R	100.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
135	4	11.1*	2	0	1	1	0	0	25.0	H	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0

TASK	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
	N	%	M	D	T	R	?	O	ΣT	MO	%	N	%	I	T	M	D	?	O	ΣT	MO	%
136	2	5.6	0	0	0	2	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
137	2	5.6	0	0	0	2	0	0	0.0	R	100.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
138	1	2.8	0	0	0	0	1	0	0.0	?	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
139	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
140	3	8.3	0	0	1	2	0	0	33.3	R	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
141	2	5.6	0	1	0	1	0	0	0.0	DR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
142	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
143	5	13.9*	1	0	1	1	0	1	25.0	MM	0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
144	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
145	2	5.6	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
146	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
147	1	2.8	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
148	2	5.6	1	1	0	0	0	0	0.0	HD	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
149	2	5.6	0	0	0	1	1	0	0.0	R?	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
150	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
151	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
152	3	8.3	0	2	0	0	1	0	0.0	D	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
153	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
154	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
155	5	13.9*	1	1	0	0	3	0	0.0	?	60.0	3	7.5	3	0	0	0	0	0	0.0	I	100.0
156	6	16.7*	2	2	2	0	0	0	33.3	MM	0.0	5	12.5*	2	1	1	1	0	0	20.0	I	40.0
157	4	11.1*	0	0	2	2	0	0	50.0	TR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
158	1	2.8	0	0	0	0	1	0	0.0	?	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
159	4	11.1*	0	0	1	3	0	0	25.0	R	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0
160	4	11.1*	2	2	0	0	0	0	0.0	HD	50.0	3	7.5	3	0	0	0	0	0	0.0	I	100.0
161	1	2.8	0	1	0	0	0	0	0.0	D	100.0	4	10.0*	2	0	2	0	0	0	0.0	IM	50.0
162	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
163	3	8.3	0	3	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
164	1	2.8	0	0	0	1	0	0	0.0	R	100.0	2	5.0	0	0	2	0	0	0	0.0	M	100.0
165	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
166	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
167	5	13.9*	0	0	5	0	0	0	100.0	T	100.0	2	5.0	2	0	0	0	0	0	0.0	I	100.0
168	4	11.1*	1	0	3	0	0	0	75.0	T	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0
169	2	5.6	0	0	2	0	0	0	100.0	T	100.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
170	3	8.3	0	0	2	1	0	0	66.7	T	66.7	2	5.0	0	1	0	1	0	0	50.0	TD	50.0

TASK	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
	N	%	H	D	T	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
171	4	11.1*	0	1	1	0	0	1	33.3	MM	0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
172	4	11.1*	0	1	2	0	0	0	66.7	T	66.7	3	7.5	1	1	0	1	0	0	33.3	MM	0.0
173	2	5.6	0	0	0	2	0	0	0.0	R	100.0	2	5.0	1	0	0	1	0	0	0.0	ID	50.0
174	10	27.8*	0	1	3	3	1	1	33.3	TR	33.3	5	12.5*	0	5	0	0	0	0	100.0	T	100.0
175	3	8.3	2	0	0	1	0	0	0.0	H	66.7	2	5.0	0	1	1	0	0	0	50.0	TM	50.0
176	2	5.6	0	1	0	1	0	0	0.0	DR	50.0	2	5.0	0	1	1	0	0	0	50.0	TM	50.0
177	4	11.1*	0	0	0	3	0	1	0.0	R	75.0	5	12.5*	1	2	2	0	0	0	80.0	TM	40.0
178	4	11.1*	3	0	1	0	0	0	25.0	H	75.0	3	7.5	0	3	0	0	0	0	100.0	T	100.0
179	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
180	1	2.8	1	0	0	0	0	0	0.0	H	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
181	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
182	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
183	0	0.0	0	0	0	0	0	0	0.0		0.0	3	7.5	2	0	1	0	0	0	0.0	I	66.7
184	1	2.8	1	0	0	0	0	0	0.0	H	100.0	3	7.5	1	0	2	0	0	0	0.0	M	66.7
185	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
186	2	5.6	0	0	0	1	1	0	0.0	R?	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
187	1	2.8	1	0	0	0	0	0	0.0	H	100.0	1	2.5	0	0	0	0	0	0	0.0	I	100.0
188	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
189	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
190	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
191	1	2.8	1	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
192	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
193	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
194	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
195	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
196	4	11.1*	1	0	2	0	0	1	50.0	T	50.0	3	7.5	1	1	0	0	0	1	33.3	MM	0.0
197	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
198	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
199	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
200	4	11.1*	1	0	2	1	0	0	50.0	T	50.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
201	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
202	2	5.6	1	0	1	0	0	0	50.0	HT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
203	2	5.6	0	0	2	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
204	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
205	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0

	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	H	D	T	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
206	3	8.3	0	2	0	1	0	0	0.0	D	66.7	2	5.0	0	2	0	0	0	0	100.0	T	100.0
207	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
208	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
209	2	5.6	2	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
210	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
211	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
212	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
213	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
214	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
215	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
216	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
217	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
218	3	8.3	0	1	1	0	0	0	50.0	DT	50.0	3	7.5	1	1	0	0	1	0	33.3	MM	0.0
219	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
220	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
221	1	2.8	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	0	0	1	0.0	O	100.0
222	1	2.8	0	1	0	0	0	0	0.0	D	100.0	1	2.5	0	0	0	0	0	1	0.0	O	100.0
223	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	0	0	1	0.0	O	100.0
224	3	8.3	3	0	0	0	0	0	0.0	H	100.0	5	12.5*	3	0	1	0	1	0	0.0	I	60.0
225	3	8.3	0	0	0	2	1	0	0.0	R	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
226	2	5.6	0	0	0	0	1	0	0.0	?	100.0	5	12.5*	3	1	0	1	0	0	20.0	I	60.0
227	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
228	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
229	2	5.6	0	0	0	1	0	0	0.0	R	100.0	1	2.5	0	0	0	0	0	1	0.0	O	100.0
230	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
231	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	0	0	1	0.0	O	100.0
232	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
233	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
234	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	0	0	1	0.0	O	100.0
235	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
236	4	11.1*	0	1	0	0	0	2	0.0	O	66.7	2	5.0	1	1	0	0	0	0	50.0	IT	50.0
237	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
238	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
239	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
240	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	4	10.0*	0	1	0	2	0	0	33.3	O	66.7

	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	H	D	T	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
241	3	8.3	0	0	2	1	0	0	66.7	T	66.7	1	2.5	0	0	0	1	0	0	0.0	D	100.0
242	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
243	4	11.1*	0	0	3	0	1	0	75.0	T	75.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
244	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
245	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
246	3	8.3	1	2	0	0	0	0	0.0	D	66.7	1	2.5	0	1	0	0	0	0	100.0	T	100.0
247	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
248	4	11.1*	2	0	2	0	0	0	50.0	HT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
249	3	8.3	1	0	1	1	0	0	33.3	MM	0.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
250	3	8.3	0	0	0	3	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
251	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
252	1	2.8	0	0	0	0	1	0	0.0	?	100.0	3	7.5	2	0	0	0	1	0	0.0	I	66.7
253	4	11.1*	0	0	4	0	0	0	100.0	T	100.0	2	5.0	0	0	0	2	0	0	0.0	D	100.0
254	2	5.6	0	0	2	0	0	0	100.0	T	100.0	2	5.0	0	1	0	0	0	1	50.0	TO	50.0
255	3	8.3	1	0	1	0	0	1	33.3	MM	0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
256	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
257	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
258	1	2.8	0	0	0	1	0	0	0.0	R	100.0	2	5.0	1	0	1	0	0	0	0.0	IM	50.0
259	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
260	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
261	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
262	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
263	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
264	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
265	0	0.0	0	0	0	0	0	0	0.0		0.0	3	7.5	1	2	0	0	0	0	66.7	T	66.7
266	2	5.6	2	0	0	0	0	0	0.0	H	100.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
267	5	13.9*	3	0	0	2	0	0	0.0	H	60.0	2	5.0	1	1	0	0	0	0	50.0	IT	50.0
268	10	27.8*	3	0	2	3	0	1	22.2	HR	33.3	9	22.5*	3	3	2	1	0	0	33.3	IT	33.3
269	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
270	3	8.3	0	0	2	1	0	0	66.7	T	66.7	2	5.0	0	2	0	0	0	0	100.0	T	100.0
271	2	5.6	0	0	2	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
272	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
273	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
274	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
275	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0

	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	H	D	T	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
276	2	5.6	0	0	1	0	1	0	50.0	T?	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
277	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
278	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
279	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
280	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
281	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
282	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
283	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
284	2	5.6	0	0	2	0	0	0	100.0	T	100.0	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
285	3	8.3	0	0	1	2	0	0	33.3	R	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
286	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
287	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
288	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
289	2	5.6	0	0	2	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
290	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
291	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
292	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
293	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
294	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
295	4	11.1*	1	0	1	1	0	0	33.3	MM	0.0	3	7.5	0	2	0	1	0	0	66.7	T	66.7
296	7	19.4*	3	1	1	2	0	0	14.3	H	42.9	4	10.0*	0	4	0	0	0	0	100.0	T	100.0
297	5	13.9*	0	1	2	1	0	0	50.0	T	50.0	5	12.5*	2	1	0	0	2	0	20.0	IT	40.0
298	11	30.6*	2	0	7	2	0	0	63.6	T	63.6	7	17.5*	0	5	0	2	0	0	71.4	I	71.4
299	9	25.0*	3	1	2	2	0	0	55.0	H	37.5	11	27.5*	9	1	1	0	0	0	9.1	I	81.8
300	4	11.1*	0	0	2	1	0	0	66.7	T	66.7	4	10.0*	1	2	0	1	0	0	50.0	T	50.0
301	3	8.3	0	0	1	2	0	0	33.3	R	66.7	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
302	6	16.7*	3	1	1	1	0	0	16.7	H	50.0	5	12.5*	1	1	2	1	0	0	20.0	M	40.0
303	4	11.1*	0	0	4	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
304	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
305	3	8.3	1	0	1	0	0	0	50.0	HT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
306	4	11.1*	0	1	2	1	0	0	50.0	T	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
307	4	11.1*	0	0	3	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
308	2	5.6	0	0	0	1	0	0	0.0	R	100.0	3	7.5	0	3	0	0	0	0	100.0	T	100.0
309	4	11.1*	0	1	1	1	0	0	33.3	MM	0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
310	3	8.3	0	0	1	2	0	0	33.3	R	66.7	1	2.5	0	1	0	0	0	0	100.0	T	100.0

TASK	POSSIBLE TO IMPROVE N	POSSIBLE TO IMPROVE %	DISTRIBUTION OF MEANS FOR IMPROVEMENT H	D	T	R	?	O	%T	MODE MO	MODE %	POORLY PERFORMED N	POORLY PERFORMED %	DISTRIBUTION OF REASONS FOR POOR PERFORMANCE I	T	M	D	?	O	%T	MODE MO	MODE %
311	2	5.6	0	0	1	0	0	0	100.0	T	100.0	0	0.0		0	0	0	0	0	0.0		0.0
312	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
313	5	13.9*	0	0	3	1	1	0	60.0	T	60.0	2	5.0	1	0	0	1	0	0	0.0	ID	50.0
314	1	2.8	0	0	0	0	1	0	0.0	?	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
315	5	13.9*	1	0	3	1	0	0	60.0	T	60.0	4	10.0*	0	0	1	2	1	0	0.0	D	50.0
316	2	5.6	0	1	0	0	1	0	0.0	D?	50.0	2	5.0	1	0	0	0	1	0	0.0	I?	50.0
317	4	11.1*	0	0	1	1	2	0	25.0	?	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
318	13	36.1*	2	1	7	0	1	0	63.6	T	63.6	4	10.0*	1	2	0	1	0	0	50.0	T	50.0
319	11	30.6*	0	0	6	2	1	1	60.0	T	60.0	3	7.5	0	3	0	0	0	0	100.0	T	100.0
320	3	8.3	0	0	2	0	0	0	100.0	T	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
321	10	27.8*	1	1	7	0	0	0	77.8	T	77.8	3	7.5	1	2	0	0	0	0	66.7	T	66.7
322	1	2.8	1	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
323	7	19.4*	1	0	5	0	0	0	83.3	T	83.3	3	7.5	1	2	0	0	0	0	66.7	T	66.7
324	1	2.8	1	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
325	5	13.9*	1	0	4	0	0	0	80.0	T	80.0	3	7.5	0	3	0	0	0	0	100.0	T	100.0
326	10	27.8*	2	1	6	0	0	0	66.7	T	66.7	3	7.5	0	3	0	0	0	0	100.0	T	100.0
327	3	8.3	0	0	2	1	0	0	66.7	T	66.7	2	5.0	0	2	0	0	0	0	100.0	T	100.0
328	1	2.8	0	0	1	0	0	0	100.0	T	100.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
329	5	13.9*	0	0	4	0	0	0	100.0	T	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
330	7	19.4*	1	2	0	1	2	0	0.0	D?	33.3	4	10.0*	1	2	1	0	0	0	50.0	T	50.0
331	6	16.7*	0	2	0	1	1	1	0.0	D	40.0	10	25.0*	6	0	1	1	0	1	0.0	I	66.7
332	4	11.1*	0	0	1	1	1	0	33.3	MM	0.0	4	10.0*	1	2	0	1	0	0	50.0	T	50.0
333	4	11.1*	2	1	1	0	0	0	25.0	H	50.0	3	7.5	2	1	0	0	0	0	33.3	I	66.7
334	5	13.9*	2	1	1	0	0	1	20.0	H	40.0	3	7.5	2	1	0	0	0	0	33.3	I	66.7
335	1	2.8	1	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
336	5	13.9*	4	0	0	0	1	0	0.0	H	80.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
337	1	2.8	0	1	0	0	0	0	0.0	D	100.0	2	5.0	1	1	0	0	0	0	50.0	IT	50.0
338	4	11.1*	2	0	1	1	0	0	25.0	H	50.0	4	10.0*	0	3	0	1	0	0	75.0	T	75.0
339	4	11.1*	0	0	1	2	1	0	25.0	R	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
340	5	13.9*	2	0	1	2	0	0	20.0	HR	40.0	3	7.5	2	0	0	1	0	0	0.0	I	66.7
341	13	36.1*	0	0	5	6	1	1	38.5	R	46.2	1	2.5	1	0	0	0	0	0	0.0	I	100.0
342	7	19.4*	0	0	2	5	0	0	28.6	R	71.4	3	7.5	1	0	1	1	0	0	0.0	MM	0.0
343	13	36.1*	1	0	5	5	0	2	38.5	TR	38.5	8	20.0*	1	1	2	4	0	0	12.5	D	50.0
344	3	8.3	0	0	1	2	0	0	33.3	R	66.7	2	5.0	1	1	0	0	0	0	50.0	IT	50.0
345	11	30.6*	0	0	3	5	1	0	45.5	TR	45.5	7	17.5*	1	0	2	2	2	0	0.0	MM	0.0

TASK	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
	N	%	H	D	I	R	?	O	%I	MO	%	N	%	I	T	M	D	?	O	%I	MO	%
346	5	13.9*	0	0	3	2	0	0	60.0	T	60.0	4	10.0*	0	0	0	2	2	0	0.0	D?	50.0
347	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
348	1	2.8	0	0	0	1	0	0	0.0	R	100.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
349	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
350	6	16.7*	2	1	3	0	0	0	50.0	T	50.0	5	12.5*	2	1	0	1	1	0	20.0	I	40.0
351	6	16.7*	2	2	2	0	0	0	33.3	MM	0.0	3	7.5	0	1	0	1	1	0	33.3	MM	0.0
352	6	16.7*	1	2	1	0	0	1	20.0	D	40.0	2	5.0	0	0	0	1	1	0	0.0	D?	50.0
353	5	13.9*	0	0	4	0	1	0	80.0	T	80.0	4	10.0*	0	4	0	0	0	0	100.0	T	100.0
354	8	22.2*	0	1	4	0	1	1	57.1	T	57.1	2	5.0	0	2	0	0	0	0	100.0	T	100.0
355	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
356	5	13.9*	1	0	2	1	0	1	40.0	T	40.0	9	22.5*	6	0	2	0	1	0	0.0	I	66.7
357	2	5.6	0	0	0	2	0	0	0.0	R	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
358	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
359	3	8.3	1	1	0	0	0	1	0.0	MM	0.0	3	7.5	3	0	0	0	0	0	0.0	I	100.0
360	1	2.8	0	0	1	0	0	0	100.0	T	100.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
361	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
362	4	11.1*	0	0	3	1	0	0	75.0	T	75.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
363	1	2.8	1	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
364	1	2.8	1	0	0	0	0	0	0.0	H	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
365	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
366	8	22.2*	0	0	4	1	2	1	50.0	T	50.0	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
367	2	5.6	0	0	1	0	0	1	50.0	TO	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
368	4	11.1*	0	0	4	0	0	0	100.0	T	100.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
369	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
370	8	22.2*	0	1	3	3	0	1	37.5	TR	37.5	0	0.0	0	0	0	0	0	0	0.0		0.0
371	5	13.9*	0	0	3	0	1	1	60.0	T	60.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
372	5	13.9*	1	0	2	0	0	1	50.0	T	50.0	5	12.5*	4	1	0	0	0	0	20.0	I	80.0
373	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
374	5	13.9*	1	2	2	0	0	0	40.0	DT	40.0	8	20.0*	3	1	3	0	1	0	12.5	IM	37.5
375	8	22.2*	1	1	4	0	0	0	66.7	T	66.7	13	32.5*	5	1	5	0	2	0	7.7	IM	38.5
376	4	11.1*	1	1	2	0	0	0	50.0	T	50.0	12	30.0*	6	3	2	0	1	0	25.0	I	50.0
377	1	2.8	0	0	1	0	0	0	100.0	T	100.0	2	5.0	0	1	1	0	0	0	50.0	IM	50.0
378	5	13.9*	0	1	3	0	1	0	60.0	T	60.0	2	5.0	0	0	2	0	0	0	0.0	M	100.0
379	2	5.6	0	0	2	0	0	0	100.0	T	100.0	2	5.0	0	0	1	0	1	0	0.0	M?	50.0
380	5	13.9*	1	2	1	0	1	0	20.0	D	40.0	9	22.5*	2	1	5	0	1	0	11.1	M	55.6

	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
TASK	N	%	M	D	T	R	?	O	%T	MO	%	N	%	I	T	M	D	?	O	%T	MO	%
381	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	1	2.5	0	0	0	0	1	0	0.0	?	100.0
382	5	13.9*	0	0	2	1	2	0	50.0	T?	50.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
383	3	8.3	0	0	3	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
384	5	13.9*	0	0	4	1	0	0	80.0	T	80.0	0	0.0	0	0	0	0	0	0	0.0		0.0
385	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	5	12.5*	2	1	0	1	1	0	20.0	I	40.0
386	5	13.9*	0	0	4	0	0	1	80.0	T	80.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
387	5	13.9*	0	1	3	0	0	1	60.0	T	60.0	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
388	4	11.1*	0	2	0	0	1	0	0.0	D	66.7	2	5.0	1	0	0	1	0	0	0.0	ID	50.0
389	2	5.6	0	0	0	2	0	0	0.0	R	100.0	1	2.5	0	0	0	0	1	0	0.0	?	100.0
390	8	22.2*	0	0	1	6	1	0	12.5	R	75.0	5	12.5*	0	0	3	1	1	0	0.0	M	60.0
391	2	5.6	0	1	0	1	0	0	0.0	DR	50.0	1	2.5	0	0	0	0	1	0	0.0	?	100.0
392	3	8.3	0	0	0	2	1	0	0.0	R	66.7	3	7.5	0	0	2	1	0	0	0.0	M	66.7
393	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
394	9	25.0*	0	2	4	2	1	0	44.4	T	44.4	2	5.0	0	0	1	1	0	0	0.0	MD	50.0
395	3	8.3	1	1	0	1	0	0	0.0	MM	0.0	4	10.0*	1	2	1	0	0	0	50.0	?	50.0
396	9	25.0*	1	1	5	1	0	0	62.5	T	62.5	1	2.5	0	1	0	0	0	0	100.0	T	100.0
397	10	27.8*	1	1	6	1	0	0	66.7	T	66.7	1	2.5	0	1	0	0	0	0	100.0	T	100.0
398	2	5.6	0	0	2	0	0	0	100.0	T	100.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
399	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
400	8	22.2*	0	0	8	0	0	0	100.0	T	100.0	2	5.0	0	2	0	0	0	0	100.0	T	100.0
401	4	11.1*	0	1	1	0	0	2	25.0	D	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
402	8	22.2*	0	1	7	0	0	0	87.5	T	87.5	2	5.0	0	2	0	0	0	0	100.0	T	100.0
403	7	19.4*	0	1	4	0	0	2	57.1	T	57.1	4	10.0*	1	2	1	0	0	0	50.0	T	50.0
404	7	19.4*	1	2	2	0	2	0	28.6	MM	0.0	1	2.5	0	0	0	0	1	0	0.0	?	100.0
405	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
406	0	0.0	0	0	0	0	0	0	0.0		0.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
407	1	2.8	0	0	0	1	0	0	0.0	R	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
408	2	5.6	0	0	0	2	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
409	2	5.6	0	0	0	2	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
410	5	13.9*	0	0	2	2	1	0	40.0	TR	40.0	0	0.0	0	0	0	0	0	0	0.0		0.0
411	4	11.1*	0	0	2	1	1	0	50.0	T	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
412	5	13.9*	3	1	1	0	0	0	20.0	M	60.0	0	0.0	0	0	0	0	0	0	0.0		0.0
413	6	16.7*	0	0	2	4	0	0	33.3	R	66.7	1	2.5	1	0	0	0	0	0	0.0	I	100.0
414	5	13.9*	0	0	3	2	0	0	60.0	T	60.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
415	4	11.1*	0	0	1	3	0	0	25.0	R	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0

TASK	POSSIBLE TO IMPROVE		DISTRIBUTION OF MEANS FOR IMPROVEMENT							MODE		POORLY PERFORMED		DISTRIBUTION OF REASONS FOR POOR PERFORMANCE							MODE	
	N	%	M	D	T	R	?	O	ΣT	MO	%	N	%	I	T	M	D	?	O	ΣT	MO	%
416	1	2.8	1	0	0	0	0	0	0.0	H	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
417	5	13.9*	0	0	2	3	0	0	40.0	R	60.0	0	0.0	0	0	0	0	0	0	0.0		0.0
418	4	11.1*	0	0	1	3	0	0	25.0	R	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0
419	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
420	4	11.1*	1	0	3	0	0	0	75.0	T	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0
421	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
422	4	11.1*	0	0	2	1	0	0	66.7	T	66.7	1	2.5	1	0	0	0	0	0	0.0	I	100.0
423	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
424	4	11.1*	0	0	2	2	0	0	50.0	TR	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
425	2	5.6	0	0	0	1	1	0	0.0	R?	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
426	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
427	1	2.8	0	0	0	1	0	0	0.0	R	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
428	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
429	3	8.3	0	0	2	1	0	0	66.7	T	66.7	0	0.0	0	0	0	0	0	0	0.0		0.0
430	3	8.3	0	0	3	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
431	8	22.2*	0	0	6	2	0	0	75.0	T	75.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
432	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
433	8	22.2*	0	0	5	3	0	0	62.5	T	62.5	1	2.5	0	1	0	0	0	0	100.0	T	100.0
434	2	5.6	0	0	0	1	1	0	0.0	R?	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
435	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
436	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
437	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
438	11	30.6*	2	0	8	1	0	0	72.7	T	72.7	1	2.5	0	1	0	0	0	0	100.0	T	100.0
439	1	2.8	0	0	1	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
440	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
441	0	0.0	0	0	0	0	0	0	0.0		0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
442	2	5.6	0	0	2	0	0	0	100.0	T	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
443	5	13.9*	1	2	1	0	1	0	20.0	D	40.0	1	2.5	0	0	1	0	0	0	0.0	M	100.0
444	2	5.6	0	1	1	0	0	0	50.0	DT	50.0	0	0.0	0	0	0	0	0	0	0.0		0.0
445	7	19.4*	0	1	3	2	1	0	42.9	T	42.9	1	2.5	0	0	0	0	0	0	0.0		0.0
446	4	11.1*	0	1	3	0	0	0	75.0	T	75.0	0	0.0	0	0	0	0	0	0	0.0		0.0
447	2	5.6	0	0	2	0	0	0	100.0	T	100.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
448	3	8.3	0	1	1	1	0	0	33.3	MM	0.0	0	0.0	0	0	0	0	0	0	0.0		0.0
449	1	2.8	0	0	0	1	0	0	0.0	R	100.0	2	5.0	0	1	0	0	1	0	50.0	T?	50.0
450	4	11.1*	0	0	2	2	0	0	50.0	TR	50.0	2	5.0	0	0	0	1	1	0	0.0	D?	50.0

TASK	POSSIBLE TO IMPROVE N	POSSIBLE TO IMPROVE %	DISTRIBUTION OF MEANS FOR IMPROVEMENT H	D	T	R	?	O	%T	MODE MO	MODE %	POORLY PERFORMED N	POORLY PERFORMED %	DISTRIBUTION OF REASONS FOR POOR PERFORMANCE I	T	M	D	?	O	%T	MODE MO	MODE %
451	4	11.1*	0	0	2	2	0	0	50.0	TR	50.0	3	7.5	0	0	1	1	1	0	0.0	MM	0.0
452	2	5.6	0	0	1	1	0	0	50.0	TR	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
453	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
454	1	2.8	0	0	1	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
455	2	5.6	0	0	2	0	0	0	100.0	T	100.0	1	2.5	0	0	0	1	0	0	0.0	D	100.0
456	2	5.6	0	0	2	0	0	0	100.0	T	100.0	2	5.0	0	1	0	1	0	0	50.0	TD	50.0
457	2	5.6	0	0	2	0	0	0	100.0	T	100.0	4	10.0*	0	1	0	2	1	0	25.0	D	50.0
458	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
459	2	5.6	0	0	2	0	0	0	100.0	T	100.0	3	7.5	0	3	0	0	0	0	100.0	T	100.0
460	3	8.3	1	0	0	1	1	0	0.0	MM	0.0	2	5.0	1	0	1	0	0	0	0.0	IM	50.0
461	2	5.6	1	0	0	1	0	0	0.0	HR	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
462	5	13.9*	0	0	3	2	0	0	60.0	T	60.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
463	4	11.1*	0	0	2	2	0	0	50.0	TR	50.0	2	5.0	0	0	1	0	0	0	0.0	M	100.0
464	3	8.3	0	0	1	2	0	0	33.3	R	66.7	3	7.5	0	0	3	0	0	0	0.0	M	100.0
465	2	5.6	1	0	0	1	0	0	0.0	HR	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
466	5	13.9*	1	0	2	2	0	0	40.0	TR	40.0	5	12.5*	0	1	1	2	0	0	25.0	D	50.0
467	5	13.9*	1	2	2	0	0	0	40.0	DT	40.0	3	7.5	1	1	1	0	0	0	33.3	MM	0.0
468	3	8.3	0	1	2	0	0	0	66.7	T	66.7	2	5.0	0	2	0	0	0	0	100.0	T	100.0
469	1	2.8	0	0	1	0	0	0	100.0	T	100.0	9	22.5*	1	4	2	1	1	0	44.4	T	44.4
470	1	2.8	1	0	0	0	0	0	0.0	H	100.0	5	12.5*	0	3	1	1	0	0	60.0	T	60.0
471	2	5.6	0	0	1	0	1	0	50.0	T?	50.0	3	7.5	0	1	0	2	0	0	33.3	D	66.7
472	4	11.1*	1	1	2	0	0	0	50.0	T	50.0	1	2.5	0	1	0	0	0	0	100.0	T	100.0
473	1	2.8	0	1	0	0	0	0	0.0	D	100.0	0	0.0	0	0	0	0	0	0	0.0		0.0
474	2	5.6	1	1	0	0	0	0	0.0	HD	50.0	1	2.5	1	0	0	0	0	0	0.0	I	100.0
TOTALS:	222		160	565	264	83	44					201		217	149	122	44	21				

Table C-8

Summary of Tasks by Percent of Workers Performing

Based on the 60 workers in Group 1 answering Question 1, Table C-8 summarizes the tasks performed by varying percentages of those persons. This shows 242 of the 474 tasks were performed by fewer than 20% of the workers. Tasks on which 50% or more of the workers indicated performance numbered 64.

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 8: SUMMARY OF TASKS BY PERCENT PERFORMING
(Q1)

PERCENTAGE RANGE	NO. TASKS	TASK NUMBERS
0 - 9	158	10 12 13 16 17 18 21 22 24 25 29 30 32 33 35 38 40 41 44 46 48 50 51 52 53 55 56 57 58 62 63 64 66 67 69 70 71 72 73 74 75 76 95 96 97 98 99 103 109 118 121 122 123 131 133 134 135 136 137 138 139 140 142 151 153 154 157 158 161 162 164 166 179 186 187 198 199 207 214 223 225 231 232 233 235 242 243 244 247 250 251 256 257 258 259 260 261 262 264 265 266 270 271 272 273 274 275 276 277 279 280 281 282 283 286 287 288 289 290 291 292 293 294 322 324 335 349 365 369 382 392 393 398 399 408 409 414 417 423 424 425 426 429 430 436 437 441 442 444 446 453 454 455 456 459 470 471 473
10 - 19	84	1 23 34 43 45 49 54 60 68 88 91 94 100 111 114 127 130 141 144 146 149 163 165 167 168 169 180 185 188 190 192 193 194 209 210 220 222 234 238 241 245 246 248 249 252 253 263 267 269 278 284 285 301 304 314 325 340 348 355 357 358 361 379 381 384 386 391 406 413 415 416 418 422 431 432 433 434 440 449 450 451 458 472 474
20 - 29	71	8 9 11 15 19 20 28 31 36 37 61 77 80 89 90 92 105 106 107 110 119 120 124 125 132 148 152 159 160 170 172 173 175 176 183 202 203 230 237 239 240 254 268 303 327 329 334 344 345 346 363 367 368 371 377 378 383 387 402 404 405 410 412 419 420 427 438 447 448 465 469
30 - 39	54	5 6 14 26 39 47 59 78 79 104 112 113 117 126 128 129 150 156 171 177 178 182 184 195 200 204 211 212 213 215 227 229 295 306 316 317 328 333 336 337 342 347 359 373 385 400 407 411 421 428 439 457 464 468
40 - 49	43	7 27 42 83 85 93 102 108 116 145 147 174 181 189 191 197 201 208 216 217 221 226 228 305 310 311 313 320 341 353 360 362 370 372 390 435 443 445 452 460 461 463 467
50 - 59	25	2 65 82 84 86 87 101 115 155 206 224 255 307 308 312 315 319 338 339 356 380 388 403 462 466
60 - 69	15	3 4 81 143 205 219 296 302 321 332 343 350 351 364 366
70 - 79	5	196 218 236 323 389
80 - 89	10	297 299 300 309 331 352 374 376 395 401
90 -100	9	298 318 326 330 354 375 394 396 397

Table C-9

Summary of Tasks by Percent of

Supervisors Desiring Performance

Based on all 80 supervisors in both Groups 1 and 2 answering Question 2, Table C-9 summarizes the tasks that varying percentages of those persons said should be performed by their workers. The table notes 129 of the 474 tasks were checked as relevant by fewer than 20% of the supervisors. Tasks on which 50% or more of the supervisors desired performance numberes 115.

TASK INVENTORY DATA SUMMARY
PROGRAMMERS -- COMPOSITE

TABLE 9: SUMMARY OF TASKS BY PRCNT DESIRING PERF (Q2)

PERCNTAGE RANGE	NO. TASKS	TASK NUMBERS
0 - 9	37	50 62 70 76 123 136 153 158 162 166 179 193 198 199 207 210 214 231 232 233 234 235 242 247 257 261 264 272 274 275 283 286 293 324 335 365 441
10 - 19	92	13 16 22 32 33 35 44 46 48 51 52 56 57 63 64 69 71 72 73 74 75 98 131 137 138 144 151 157 164 165 182 183 185 186 188 190 194 195 201 223 225 227 237 238 239 244 245 251 256 258 259 260 262 263 265 266 269 270 271 273 276 280 281 282 287 288 289 294 322 328 349 358 361 369 379 382 393 398 399 408 424 429 436 442 444 453 454 455 456 458 459 473
20 - 29	90	17 18 21 23 24 25 28 30 38 40 41 43 53 54 55 58 66 67 88 95 103 118 133 139 142 146 148 149 152 154 161 163 176 180 181 187 192 197 202 203 209 211 212 213 215 217 220 222 228 229 230 241 243 246 250 267 277 278 279 285 290 291 292 301 304 357 363 367 381 383 384 386 391 392 409 416 418 419 423 425 426 427 430 434 437 446 449 457 470 471
30 - 39	82	1 6 9 10 11 12 29 31 34 45 49 60 68 94 109 110 111 114 122 124 127 129 130 134 135 140 145 150 159 160 167 168 169 170 173 175 184 189 191 200 204 208 216 226 240 248 249 253 284 295 303 314 325 327 329 336 340 344 348 355 360 371 378 385 387 404 405 406 413 414 417 422 432 433 440 450 451 464 468 469 472 474
40 - 49	58	19 20 26 39 47 61 77 80 92 93 96 97 100 107 113 119 121 132 141 147 171 177 196 219 221 252 254 268 305 311 316 333 337 342 345 346 347 359 362 368 370 372 377 407 410 411 412 415 420 421 428 439 443 447 448 452 460 465
50 - 59	45	5 7 8 14 15 27 36 59 89 90 91 99 104 105 112 117 120 125 126 143 156 172 174 178 205 206 224 310 312 320 332 334 339 341 353 364 373 388 402 431 438 445 461 463 467
60 - 69	33	2 37 42 65 78 79 81 102 116 128 155 218 236 255 296 302 306 307 308 313 317 319 343 356 366 374 380 390 400 403 435 462 466
70 - 79	22	3 4 82 83 84 85 106 108 115 297 300 315 323 331 338 350 351 352 375 376 389 395
80 - 89	14	86 87 101 298 299 309 321 326 330 354 394 396 397 401
90 -100	1	318

APPENDIX D

TASK STATEMENTS NOT INCLUDED IN TABLE 1

Table 1 contains only those 313 tasks which were judged to be of reasonable relevance to the occupation of Business Data Programmers. Other tasks in the total listing of 474 data processing tasks were apparently more appropriate to other job types within the occupational field. These 161 omitted tasks are listed here to permit identification with data in Appendix C.

These 161 tasks were the ones on which large numbers of either the workers or the supervisors indicated that the task was not or should not be performed by Business Data Programmers. This selection was made when less than 10% of the Group 1 workers indicated they perform a task (Question 1), or less than 10% of all supervisors indicated their workers should perform a task (Question 2). Thus, if more than five workers and more than seven supervisors had checked a task, then it was included in the Table 1 summaries.

	Percent Who Now Do	
	Actual, by Workers	Desired by Supervisors
DUTY A: SUPERVISING DATA SERVICES FUNCTIONS	%	%
10. Develop standards and factors for use in management control systems.	8	31
12. Evaluate work performance of data services personnel.	3	31
13. Fill out question and inventory forms.	7	19
16. Maintain training records for data services personnel.	2	11
17. Monitor maintenance of utilization logs.	5	21
18. Monitor production controls and standards.	5	24
21. Order data automation supplies and equipment.	0	22

		Actual, by Workers	Desired by Supervisors
		%	%
22.	Perform automatic data processing equipment financial planning.	0	18
24.	Plan facility modification.	2	22
25.	Prepare or audit personnel records.	0	21
29.	Serve on inspection teams to evaluate other data systems units.	2	30
30.	Supervise data services specialists.	2	24
32.	Supervise operation of punch card or tape filing systems.	2	15
33.	**Supervise the maintenance of publications and reports management authority files.**	2	15
DUTY B:	SUPERVISING AUTOMATIC DATA PROCESSING EQUIPMENT OPERATIONS		
35.	Control tape utilization and assignment.	5	16
38.	Coordinate scheduling of machine work load.	7	25
40.	Coordinate work of management analysis with staff sections and other activities.	2	25
41.	Design system of magnetic type management.	3	2(
44.	Evaluate office of prime responsibility equipment utilization and maintenance.	0	10
4(.	Evaluate work performance of operators.	2	19

		Actual, by Workers	Desired by Supervisors
		%	%
48.	Inventory electronic data processing supplies.	0	12
50.	Maintain training records on operators.	2	4
51.	Monitor the maintenance of utilization logs on automatic data processing equipment.	3	14
52.	Perform periodic inspections of data automation activities.	2	18
53.	Plan and conduct on-the-job training in data processing equipment operation.	5	24
55.	Plan and schedule duty assignments for data automation activity.	8	20
56.	Plan and schedule work assignments for operators.	5	14
57.	Plan personnel management.	0	18
58.	Prepare cost reports and cost estimates for data automation equipment.	3	22
62.	Prepare shift reports.	2	6
63.	Requisition auxiliary data processing equipment such as decollaters or forms bursters.	0	14
64.	Requisition supplies.	5	18
66.	Review or prepare cost estimates of equipment utilization.	2	20
67.	Review personnel for raise recommendations.	0	25
69.	Schedule basic input into manual data systems.	7	15

		Actual, by Workers	Desired by Supervisors
		%	%
70.	Schedule machine inspection and repair.	3	9
71.	Supervise administration of management control system.	0	14
72.	Supervise apprentice data processing machine operators.	5	14
73.	Supervise clerks, typists, or illustrators.	2	10
74.	Supervise data processing machine operators.	7	14
75.	Supervise data processing machine supervisors.	0	10
76.	Supervise financial analysis activities.	0	4
DUTY C: SUPERVISING PROGRAMMING			
95.	Establish stock levels of blank forms and coding sheets for programming.	5	29
96.	Evaluate proficiency of programming personnel to determine training needs.	3	41
97.	Evaluate programmers with respect to current techniques and methods.	3	42
98.	Evaluate programming suggestions under incentive suggestion program.	2	11
99.	Evaluate work performance of programmers.	5	50
103.	Lead inspection of conversion teams.	0	21
109.	Plan programming work loads, make work assignments, and organize shifts.	7	34

		Actual, by Workers %	Desired by Supervisors %
118.	Review unit and individual training data.	5	25
121.	Supervise apprentice programming specialists.	8	40
122.	Supervise programming specialists.	3	35
123.	Train functional area personnel in statistics, mathematical models, or other scientific applications.	2	8
DUTY D:	SUPERVISING DATA SYSTEMS ANALYSIS AND DESIGN		
131.	Establish systems analysis review schedules for existing systems.	5	19
133.	Evaluate work performance of systems analysis and design personnel.	2	26
134.	Inspect systems analysis and design activities.	2	32
135.	Orient newly assigned systems design and analysis personnel.	3	31
136.	Perform large scale computer scheduling.	0	9
137.	Plan data systems analysis and design work loads.	5	19
138.	Plan in-shop systems analysis and design personnel and evaluation requirements.	2	14
139.	Prepare in-house reports on personnel and systems design activities.	2	21
140.	Prepare recommendations for needed data systems equipment.	0	36

		Actual, by Workers %	Desired by Supervisors %
142.	Supervise data systems analysis and design specialists.	2	21
DUTY E:	PERFORMING DATA PROCESSING FUNCTIONS		
151.	Control automatic data processing equipment and data processing equipment orders.	3	11
153.	Control basic input into manual data systems.	8	8
154.	Coordinate production control schedules.	8	21
157.	Develop data and documentation of accrued benefits resulting from installation of automatic data processing equipment.	3	15
158.	Evaluate and dispose of administrative records.	3	6
161.	Maintain publication files.	3	24
162.	Maintain suspense file for controlled reports.	3	4
164.	Perform annual reports survey.	3	14
166.	Prepare and submit daily requirement notices to supportive services.	2	6
DUTY F:	OPERATING AUTOMATIC DATA PROCESSING EQUIPMENT		
179.	Initiate all computer operating notes, technical bulletins, etc., for job performance improvements.	3	8
186.	Maintain levels of data processing supplies.	2	18

		Actual, by Workers	Desired by Supervisors
		%	%
187.	Maintain technical files on equipment operations and procedural changes.	8	22
193.	Operate document writer.	10	8
198.	Operate paper tape punch and reader.	7	8
199.	Operate punched card accounting machines.	7	9
207.	Perform disk-to-plotter operation.	2	4
210.	Perform operator maintenance on automatic data processing equipment.	10	2
214.	Perform tape-to-plotter operation.	2	5
223.	Record time log for unscheduled maintenance.	7	12
225.	Schedule sequence of users during shift for effective organization of runs.	5	14
231.	Splice magnetic tape and leaders.	5	6
232.	Splice paper tape.	0	1
233.	Set up punched card accounting machines for operation.	8	5
234.	Strip tape and add new load point.	17	9
235.	Use absolute binary deck (ABS deck) to rerun programs.	3	6
DUTY G: PERFORMING SYSTEMS PROGRAMMING			
242.	Design or write compilers.	0	8

		Actual, by Workers	Desired by Supervisors
		%	%
243.	Design support programs for cathode ray output.	7	24
244.	Develop maintenance procedures for the operating system.	7	14
247.	Maintain manufacturer supplies on-line teleprocessing system.	3	8
250.	Select various components to be used in creating new operating system.	3	24
251.	Up-date systems monitor programs.	3	15
256.	Write systems monitor programs.	3	13
DUTY H: PERFORMING SCIENTIFIC PROGRAMMING			
257.	Analyze and modify computer languages.	0	9
258.	Analyze seldom-used computer languages.	5	11
259.	Construct mathematical models for programs.	5	12
260.	Construct programs or routines using double precision floating points.	8	12
261.	Construct programs or routines using simulated double precision floating points.	0	8
262.	Construct programs or routines using simulated floating points.	0	11
264.	Construct simulated single precision floating points.	0	6
265.	Develop general flow charts for scientific programming.	8	15

		Actual, by Workers	Desired by Supervisors
		%	%
266.	Develop guidelines and specifications for scientific programming.	0	11
270.	Use linear programming techniques.	3	19
271.	Use queuing theory to construct simulation models.	5	10
272.	Write heuristic programs or use heuristic programming techniques.	5	6
273.	Write programs for analysis of medical data.	2	10
274.	Write programs for analysis of physical phenomena and development of equations.	2	6
275.	Write programs for computer language development.	2	6
276.	Write programs for correlation or regression analysis.	3	15
277.	Write programs for data reduction.	8	24
279.	Write programs for equation solving.	5	21
280.	Write programs for factor analysis.	2	12
281.	Write programs for matrix inversion.	3	10
282.	Write programs for matrix multiplication.	3	11
283.	Write programs for physical simulation using differential equations.	0	9
286.	Write programs for simulation of functions using simulated language.	2	8

		Actual, by Workers	Desired by Supervisors
		%	%
287.	Write programs for simulation studies.	2	10
288.	Write programs for testing mathematical hypotheses.	0	11
289.	Write programs for testing statistical hypotheses.	2	14
290.	Write programs to compute frequency distributions.	8	21
291.	Write programs to do item analysis.	7	22
292.	Write programs to compute means and standard deviations.	8	26
293.	Write programs to produce design plans via use of plotter.	0	6
294.	Write programs to provide design data.	2	11
DUTY I:	PROGRAMMING COMPUTERS		
322.	Design or lay out drum storage formats.	2	11
324.	Design or lay out paper tape storage formats.	2	9
335.	Develop index of unit performance.	0	9
349.	Forecast trends in performing analysis tasks.	2	10
365.	Perform analog programming.	0	6
369.	Perform special studies on staff studies.	2	15
382.	Prepare reports relating data to local problems and management decisions.	8	19

		Actual, by Workers %	Desired by Supervisors %
392.	Review operating cost data.	5	21
393.	Review unit and individual training data.	3	14
398.	Use program evaluation review techniques (PERT) to analyze programs or to record program progression.	7	15
399.	Write consol program manuals.	8	14
DUTY J:	PERFORMING FEASIBILITY STUDIES (PILOT PROJECTS)		
408.	Determine communication requirements of facsimile.	2	10
409.	Determine communication requirements of data phone.	2	21
414.	Evaluate present and proposed costs of processing, storage, and informational retrieval.	8	31
417.	Investigate communications and teleprocessing requirements for integration of data systems and processing.	8	38
423.	Prepare recommendations for size and capacity of proposed electronic data processing equipment.	2	26
424.	Prepare responsiveness requirements (speed with which data processing personnel can react to new systems).	3	18
425.	Supervise post-installation inspections of new systems.	3	26

		Actual, by Workers	Desired by Supervisors
		%	%
DUTY K:	DESIGNING DATA SYSTEMS		
426.	Audit mechanized listing to check out systems.	7	26
429.	Design character recognition systems to include input/output equipment.	5	15
430.	Design data conversion systems to include input/output equipment.	3	28
436.	Design punched tape media layouts.	5	12
437.	Design systems to include tabular forms and visual displays.	5	21
441.	Plan utilization of photographic storage and retrieval equipment.	2	5
442.	Prepare data automation proposals (DAP).	0	16
444.	Prepare manual data systems reports.	8	15
446.	Prepare statistical reports about data systems.	2	22
453.	Use factor analysis to design data systems.	3	10
454.	Use linear programming to design data systems.	2	12
455.	Use probability theory to design data systems.	2	12
456.	Use queing, gaming or logical decision theorem to design Data System.	0	12
DUTY L:	PERFORMING DATA SYSTEMS ANALYSIS		
459.	Develop networks such as PERT, CPM, and LESS.	3	14

		Actual, by Workers	Desired by Supervisors
		%	%
470.	Prepare grid and matrix charts of input or output files.	7	20
471.	Prepare presentations of data systems operations.	5	24
473.	Schedule systems studies.	7	19

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